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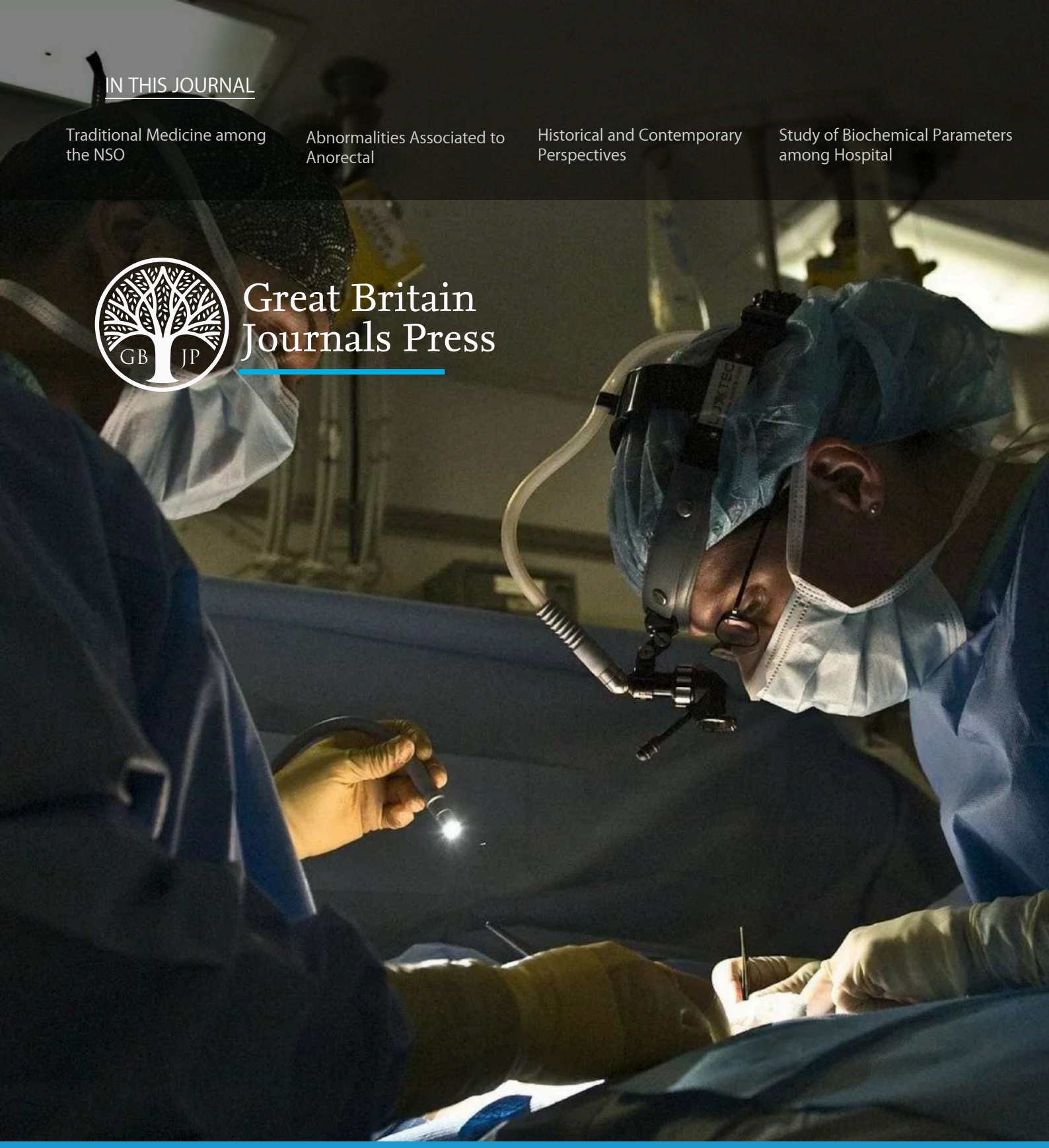

Great Britain Journals Press

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London Journal of Medical & Health Research

Volume 25 | Issue 3 | Compilation 1.0

COMPILED IN UNITED KINGDOM

ENGLISH

LONDON JOURNAL OF MEDICAL AND HEALTH RESEARCH

Volume 25 | Issue 3 | Compilation 1.0

PUBLISHER

Great Britain Journals Press
1210th, Waterside Dr, Opposite Arlington Building, Theale, Reading
Phone:+444 0118 965 4033 Pin: RG7-4TY United Kingdom

SUBSCRIPTION

Frequency: Quarterly

Print subscription
$280USD for 1 year
$500USD for 2 year
(*color copies including taxes and international shipping with TSA approved)*
Find more details at https://journalspress.com/journals/subscription

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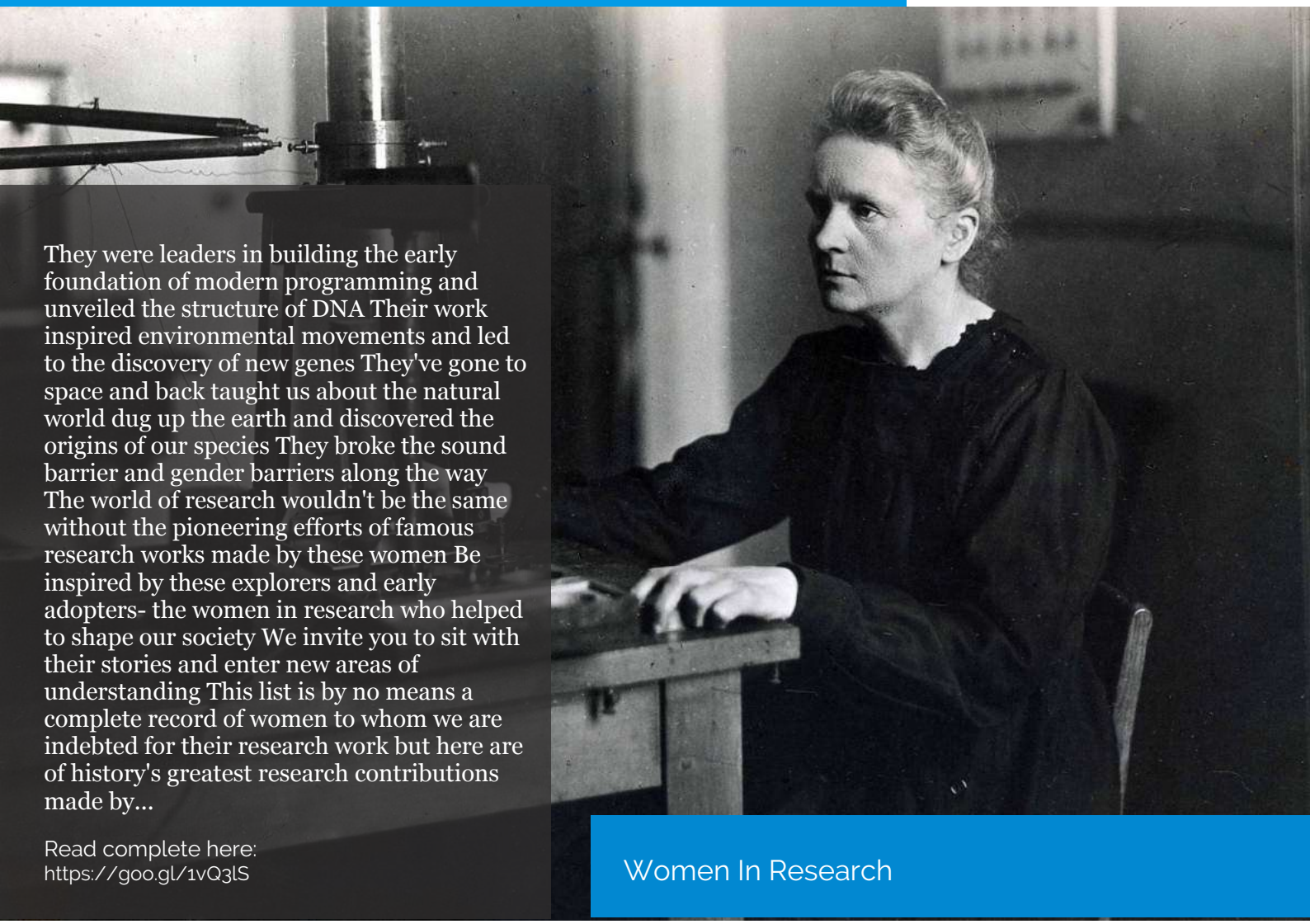

They were leaders in building the early foundation of modern programming and unveiled the structure of DNA Their work inspired environmental movements and led to the discovery of new genes They've gone to space and back taught us about the natural world dug up the earth and discovered the origins of our species They broke the sound barrier and gender barriers along the way The world of research wouldn't be the same without the pioneering efforts of famous research works made by these women Be inspired by these explorers and early adopters- the women in research who helped to shape our society We invite you to sit with their stories and enter new areas of understanding This list is by no means a complete record of women to whom we are indebted for their research work but here are of history's greatest research contributions made by...

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Research papers and articles

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How to use Alternative and Natural Medicine in the 21st Century Part V

Dr. Rebecca L. Burkett

ABSTRACT

Part V of the article is using alternative and natural medicine in Hospice and Palliative Care may experience depression, anxiety, and delirium.

Keywords: NA

Classification: NLM Code: WB890, W84, WM171

Language: English

LJP Copyright ID: 392821

Great Britain Journals Press

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ABSTRACT

Part V of the article is using alternative and natural medicine in Hospice and Palliative Care may experience depression, anxiety, and delirium.

I. INTRODUCTION

What are the causes of depression, anxiety, and delirium? The causes of depression are feelings of sadness all day, mood swings. Feelings of hopelessness, lack of doing interests that were a joy before the depression set in, weight loss that causes a lack of energy.

1.1 Palliative Care and Integrative Palliative Care

In Alternative Medicine and Natural Medicine, Palliative care has a plethora of options for treatments, for example, Reiki along with chakra healing. Yoga classes for peace and Zen, homeopathic treatments, life, and health coach session. Everyone that has cancer or other diseases that cause a patient debilitation in their health can use these types of Esoteric Science. For Palliative Care and Integrative Palliative Care (IPC), there is also Palliative Hospice Care. All three have plenty of care to offer.

1.2 Palliative Care

Depression signs, symptoms and causes, and treatments. The person suffering from depression must have at least five symptoms from the list:

Depressed Mood

Loss of Interest or Pleasure

Feelings of Worthlessness or Guilt

Agitation or Restlessness

Fatigue or Loss of Energy

1.3 Palliative Care

A person with depression must have one of the symptoms must be "depressed mood" or "loss of interest or pleasure." The person must experience these symptoms every couple days for at least a 2-week period. During this time make sure you monitor how times you experience any mood changes with the food changes, sleep changes, and activity changes. Keep a logbook and report all this to the doctor with this information so the appropriate treatment. Make sure you tell your doctor if you have any serious illness and allergies to any food.

Manic episodes. Manic episodes may happen in people with bipolar disorder who have symptoms that may include:

Increased energy, a person cannot settle down to rest.

Racing Thoughts that your brain is going a hundred miles a minute that you cannot shake a headache.

Unusual grand ideas and explosion of doing all the things you want to get involved in with properly planning with a financial advisor.

Talking more or faster than usual, so that your brain cannot keep up.

Severe trouble sleeping, talk to your doctor on the next treatment plan.

Reckless behavior, doing activities that you would not normally do out of your comfort zone.

Excessive happiness or irritability, two different areas are competing. These two areas are fighting for control, cannot find a happy medium.

Signs, there are signs to look for when your body is changing. Keep track of your body changes even

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your family, friends and work can notice. For example, when you do not get enough sleep, or your eating habits change.

1.4 Depression in Alternative and Natural Medicine

The difference between alternative and Natural Medicine and Integrative Palliative Care.

Alternative and Natural Medicine: Description of a mood disorder that causes a persistent feeling of sadness and loss of interest. Also called major depressive disorder or clinical depression. You can also find this in the DSM 5 book. Also use the feeling chart to describe and give a percent on how you feel, for example, 1-10. One being a low point, an eight being a high point of feeling totally being depressed. A person just needs a little help from deprallia on so it can be manageable.

Signs are these episodes, symptoms occur most of the day, every couple of days and may include:

Feelings of sadness, tearfulness, emptiness, or hopelessness.

Angry outbursts, irritability or frustration, even over small matters.

Loss of interest or pleasure in most or all normal activities, such as sex, hobbies, or sports.

1.5 Treatments

There are two groups of people that suffer from depression. Each group suffers from depression in the different age range. Childhood depression can be caused by many signs are bullying, poor home environment, financial strain, deficient per-formance to mediocAdults Are Young Adults to Seniorse performance.

Adults Are Young Adults to Seniors.

Young adults from age 20 up to fifty home environment, financial strain, religious pressure.

Seniors: another feeling is dementia that seniors may suffer, poor home environment, financial strain, not able to do daily activities, no loved ones that can take care of them.

Case Study 1

The NRC of Human Understanding offers a wide area of concentration that the patient has had a positive response to treatment. The Categories incStu de:

Patient Experience Px Consumer Experience Cx Employee Experience Ex Market Experience (MX), Leadership, CAHPS, Pediatric, HUB.

*Case Stu*dy 2

Antidepressants for the treatment of depression in palliative care: systematic review and meta-analysis.

The objective and perspective of this case study was to determine the efficacy of antidepressants for the treatment of depression in palliative care. There are three companies that were chosen for the case study. They are the Medline, Embase, Psycinfo and the Cochrane trials registers were systematically searched to identify randomized controlled trials for treatment of depression in palliative care. For the research study, it is to identify the main point for the random controlled trials that determined the specific treatment. The outcome of this study was a positive result, and more information can be used for treatment. The primary outcome was efficacy between the placebo and using an antidepressant.

II. CONCLUSION

Doing the subject of depression is important because being ill for a long time, a person can really be at a low point in their life. Having treatments for depression can be on an Esoteric level as well. If the patient is suffering on a high-level range, then more drastic measures should go into effect.

Conclusion on the Case Studies Are Needing Improvements to Provide the Level of Care That Is Needed for the Patient. The Second Study Was Determined to Be Beneficial for the Patient to Know What Treatment Was Feasible.

RESOURCE

1. Auvelity.Com (https://www.auvelity.com/how-auvelity- may-help)
2. Mayo clinic org, (https://www.mayoclinic.org/diseases-conditions/depression/symptoms-causes/syc)
3. Altmedrev.com, (https://altmedrev.com/wp-content/uploads/2019/02/v10-1-5.pdf)
4. NRC Health.com, (https://nrchealth.com/resources-category/case-studies/page/2)
5. NCBI, (https://pubmed.ncbi.nlm.nih.gov/20935027)

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(Re) Assessing the (in) Efficacy of Traditional Medicine among the NSO and Bakweri of Cameroon: Historical and Contemporary Perspectives

Njodzeka Elvis, Ferdinan Ngomba Vevanje & Heirly Likowo Beshakeh Fonkeng

University of Buea

ABSTRACT

Traditional Medicine (TM) which was pioneer in satisfying man's health needs posed as one of those cultural aspects of centrality to the social and political economies of most communities in Africa South of the Sahara. Conventional medicine has its roots in traditional healing practices, as many early medical discoveries were derived from traditional herbal knowledge. Otherwise, the base of conventional medicine was first laid by TM. The question of efficacy looms over TM as a serious debate ensues among scholars for example: in Cameroon, as to its effectiveness which have been sustained for more than a century.

Keywords: traditional medicine (tm), herbs, nso, bakweri, efficacy, inefficacy, traditional healers, herbal remedies, indigenous knowledge, medical anthropology.

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Language: English

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Traditional Medicine (TM) which was pioneer in satisfying man's health needs posed as one of those cultural aspects of centrality to the social and political economies of most communities in Africa South of the Sahara. Conventional medicine has its roots in traditional healing practices, as many early medical discoveries were derived from traditional herbal knowledge. Otherwise, the base of conventional medicine was first laid by TM. The question of efficacy looms over TM as a serious debate ensues among scholars for example: in Cameroon, as to its effectiveness which have been sustained for more than a century. So, though TM among the Nso and Bakweri was widely known for its effectiveness in the nineteenth and twentieth centuries, it seems as though sparsely and at times administration of herbal treatment did not meet up to expectations as diseases it was intended to treat or heal persisted despite administration of herbal concoctions. Reasons account for this backdrop which are pinpointed and analysed herein. Inter-disciplinarity and content analysis form the methodological blocks of this manuscript, meanwhile primary and secondary sources will be used for data collection. The findings reveal that TM was effective but the activities of some practitioners had/has tempered with the efficacy of TM in one way or the other; deontological concerns/ (in)adherence has its paw on the question as far as the efficacy/inefficacy of TM is concerned, the nature of certain illnesses, among others. Overtime, this practice has also evolved with significant improvement in packaging and hygienic conditions. The findings also revealed the fact that though TM failed to treat some illnesses does not demonstrate inefficacy, since individual traditional healers at times failed to respect the norms of treatment.

Keywords: traditional medicine (tm), herbs, nso, bakweri, efficacy, inefficacy, traditional healers, herbal remedies, indigenous knowledge, medical anthropology.

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I. INTRODUCTION

TM is also known variously as palliative medicine, preventive medicine, ethno-medicine, folk medicine, alternative medicine or 'native'/ indigenous healing. Since antiquities in varied ethnicities, TM was sought after for the treatment of many ailments (gastro-intestinal infections, sprains, convulsions, fevers, malaria, headaches, fractures, madness, eye defects, skin rashes, catarrh, cough, diabetes, hypertension, HIV/ AIDS, and so on) which affected humankind. Due to its affordability and accessibility, TM has remained a preferred health care option across societies, with traditional healers playing a vital role. There has been widespread acclimation since medicinal plants have played a crucial role in traditional healthcare systems due to their availability. TM has played a crucial role in shaping social and political economies in many African countries such as Guinea Bissau, Guinea Conakry, Togo, Senegal, Nigeria, Ghana, Sierra

Leone, Liberia, Rwanda, Burundi, Kenya, Angola, Chad, Central African Republic, Gabon, Cameroon, Namibia, Zimbabwe and South Africa (WHO Africa, 2003; Adeniyi, Olufemi-Adeniyi & Erinoso, 2015; Mahomoodally, 2013; Martin Okhoyameh et Al., 2024). According to WHO, 2003, TM simply refers to indigenous knowledge, practices and skills rooted in beliefs, theories and experiences of varied cultural backgrounds utilized in health maintenance through diagnosis, treatment, prevention or improvement of mental and physical sickness.

Besides, the question of whether or not TM has been effective or ineffective has generated scholarly debates. According to Mahomoodally, 2013 the effectiveness of traditional medicine has stood out as the respect of ethnic deontology/ indigenous rules about traditional medicine puts its efficacy to the spotlight over many centuries/millennia not only in Africa but in other continents of the globe, which is rich in thousands of medicinal herbs - essential inputs in the treatment of varied diseases which trouble(d) humanity making her at times have an ephemera lifespan or unable to perform specific tasks.

Mahomoodally, 2013 did discuss the potency of ten medicinal plants in the course of doing a review of scientific literature. Among the plants are *Aloe Ferox, Acacia Senegal, Aspalathus linearis, Artemisia Herbalba, Catharanthus roseus and Centella Asiatica,* which had curative phytochemical substances and proved to be very effective in the treatment of varied ailments such as bronchitis, diarrhea, gonorrhea, cancer(s), skin diseases (e.g. rashes), diabetes, nausea, stomach aches/cramps, burns, ulcers, asthma, rheumatism, tuberculosis, heartburns, *inter alia*. Other studies such as Liheluka et Al., 2023 has hailed the effectiveness of traditional medicine in treating diarrhea among under five children in North Eastern Tanzania. Agbor and Naidoo, 2011:5-6, investigated the efficacy of TM in the improvement of oral health in the Bui Division. Traditional healers in Bui were able to cure oral disease conditions such as: aphthous ulcer, caries, candida, gum disease, kaposi sarcoma, and tongue cancer using mouthwashes from barks of tree extracts, pain relieving herbs, fumes from burnt food spices used to remove worms from infected teeth and the application of powder from tree barks to stop the pain.

Per contra, drawing from Akinawo and Akpunne, 2018:58, how will the effectiveness of African Traditional Medicine not be put to question, when research on its products and practices has been recently sparse or limited on a general note? And also, drawing from Gouws, 2018, if African TM tends to be ineffective at times, then it has been a matter of perceptions, prescription and usage. For instance prescription of TM in Africa has been somehow secretive. Paradoxically, the knowledge about it is transmitted from one generation to another by traditional healers/ doctors mostly through word of mouth which has resulted to either wrong dosage, under-dosage or over-dosage. And in addition, some of the knowledge is not disclosed to the upsrings of traditional healers on basis of its nature or for some selfish reasons.

Self-medication with TM has raised serious concerns in the process of remedial care. Some Africans have even gone to the extent of consuming both herbal and conventional medicine simultaneously. Thus, this has downplayed on the effectiveness of either the herbal medicine or conventional medicine. These case scenarios are evident in nearly every locality/community in Cameroon, where almost "everyone" wants to be or is a traditional doctor/herbalist, and respect for deontology governing TM has gone down the drain, thus dragging the potency of TM in the mud.

The communities which this article focuses on, has myriad of herbs of medicinal value. These herbs were and are still instrumental towards the advancement and sustainability of TM. They were harvested, for instance, by the Bakweri from forests such as the Mount Cameroon, Etinde Community Forest and the Bakingili and Woteva Community Forests and even in and around their various village communities, while the Nso extracted plants of medicinal value from and even around their village communities as the need arouse following sickness demands in alignment with certain indigenous norms/laws/principles

either documented or undocumented but forming part and parcel of Indigenous/Local Knowledge. But most of the herbs are undocumented as the consciousness or efforts to document this rich wealth of knowledge and herbs only arose when key/many traditional griots/doctors who knew the herbs had either died without passing the knowledge to the next generation or little was done to document the herbs and diseases they could treat and how herbal concoctions could be prepared and under what conditions as well as procedure of herbal administration thus: resulting to the loss of excellent Indigenous/Local Knowledge. Indigenous/Local Knowledge (ILK) has been key in the assurance of cultural continuity and harbouring of extraordinary cultural wealth bequeathed from past generations of cultural lineages.

Within the context of ILK, traditional medicine stands to be a matter of growing concern. This is because its effectiveness stands to be more or less a question of scientific inquiry. That is why this research work intends to provide answers why amidst the Bakweri and the Nso of Cameroon, even though TM seemed/seems to have been heralded, to a significant extent for its effectiveness, on the one hand there seemed/ seems to be some clouds of ineffectiveness. Prior to delving into this analysis it is important to situate these ethnicities (Bakweri and Nso) for anyone reading who may not know them well to picture them and understand our focus herein.

1.1 Situation of the Nso and Bakweri

The Bakweri are divided into Upper and Lower Bakweri have sheered values, beliefs and practices. Bakweri are also known as Wakpe, Vapkwe, Wakweli, Wonjua or Kpe speak *Mokpwe*. They are today spread in almost spread all parts of Cameroon. Their settlement of origin within the Cameroon confines is Fako Division precisely the fertile and scenic slopes of Mount Cameroon. The Bakweri cuts across the following subdivisions of Fako: Buea, Tiko, Limbe I and II. They are partly agrarian as their location provides favourable ground for agricultural activities (Tande & Molua, 2022:17-18). Their location - the slopes of Mount Cameroon is rich in different herbs of medicinal values which used for the treatment of varied ailments such as cough, malaria, stomach ache and headache. Among the herbs are *Lisefo* used as remedy for nose bleeding, *Tambi* for cough, *Gbwasa* for the treatment of wounds, *Dotutu* tree barks for the treatment of cough and respiratory tract infections, *Elualua* for fever, *Efa'anja* for cough, *Irzo-rzo-a-Maija* for headache and fever, Arabica Coffee leaves for fever, et cetera. These herbs have long among the Bakweri been known for their potency (Mola Ndoko, n.d.; Mola Lyonga Elali, personal communication, 2024; Mola Ekema Njie, personal communication, 2024). In fact, the Bakweri have regarded herbs not only as medicine, but to a greater or lesser extent as food. Besides, the aspect of potency of traditional medicine has stood and stands tall among the Nso of Camerooon's North West Region.

The Nso are found in the Bamenda Grassfields of Cameroon's administrative division of Bui. Nso is a highly recognized kingdom under the Headship of a well reputable Fon. The capital place of Nso is Kumbo. The indigenes of Nso speak an indigenous language known as *Lamnso* (Abam, 2020). Herbs of medicinal value have for more than a century influenced the health situation of the Nso people. Infact the Nso people could not live and survive without traditional medicine as they heavily relied on it for a long time before the filtration of conventional medicine into the Kingdom.

In both the Bakweri society of South Western Cameroon and the Nso community of the Bamenda grassfields, North Western Cameroon, TM and conventional medicine have existed and still continue to lay side-by-side. It has long remained a matter of preference of patients whether to patronize traditional medicine or to patronize conventional medicine. Patronization of traditional medicine has persisted long as compared to conventional medicine. Before the introduction of conventional/biomedicine in the Bamenda Grassfields and the Southern Cameroons in the 19th century, traditional medicine have had a more extended history of solicitation in meeting up with the health needs of the indigenous population of the different

communities among which are the Bakweri and the Nso. Thanks to traditional medicine the people have been able to get palliative, curative and preventive care, and in some cases traditional medicine covers up some of the limitations of conventional medicine. Socio-economic conditions of Cameroon and the potency of traditional medicine has also served as a motivation to many to take interest in TM (Asongwe, 2021:26-30,33-35; Arrey- Mbi and Pagbe Musah, 2023: 7-10, 17-18; Njodzeka, Bulowah and Ngwoh, 2024; 94- 97,101). But this not wit standing, some wind of criticism hoovers over TM as there have been concerns of sanitary conditions in the course of preparation, prescription, dosage, usage, storage, and over concerns of ethics and deontology. This puts the question of TM's effectiveness on a high pedestal deserving attention and consideration.

1.2 Threatened Efficacy of TM among the Nso and the Bakweri

Efficacy within the context of traditional medicine refers to the extent of effectiveness of traditional health care practices in the form of concoctions or decoctions directed towards the diagnosis, treatment prevention, control or remedying of diverse disease conditions. The efficacy of traditional medicine has two dimensions which are: its intrinsic and extrinsic dimensions. That is, it works to cure disease conditions within the human body system such as the immune, brain or muscular system. While the external dimension is how TM cures skin diseases such as rashes, scabies, rabies, chicken pox and small pox. Traditional medicine has had its potency visible through its application at different instances in time and in different societies to treat, manage, ally, suppress or bail a patient out of mental misfortune, eye defects, fractures, and even used in the delivery process of women. The effectiveness of traditional medicine remains a miracle because all about its potency have not yet being disclosed even by myriad of current studies. The effectiveness of traditional medicine depends on several factors. But the principal factors is deontological underpinnings.

The efficacy and or inefficacy of TM indeed depend on some key factors which include the mode of preparation, mode of administration, the belief or faith of the patient in the medicines, taking medicines as prescribed, the place where the herbs for treatment were harvested and the traditional healer administering the treatment (Yarayen, 2016). It should be noted that not all illnesses were treated, no matter how effective the traditional healer was. It should also be pointed out that no matter how effective a traditional healer could be, they could not treat illnesses with spiritual underpinnings without performing sacrificing to appease the spirits or the patient confessing. These factors have influenced the nature of TM in several Cameroonian societies and the Nso and the Bakweri are inclusive. Among the Bakweri, Liengu diseases warranted that certain rituals and sacrifices be performed before the patients could have relief. During 'pre-colonial' Bakweri and Nso, TM was the only source of therapy that the people relied on in times of health challenges. This was until the 19th century when conventional medicine was introduced by the missionaries and the colonial authorities to augment TM (Kent, 2002). It should be made clear here that TM was not a commercial activity in the 'pre-colonial' and early 'colonial' periods. Commercialization of TM began in the 1940s when the British. introduced the 'Native' Doctor Tax (Kent, 2002. In the early 2000s or from there henceforth, the TM sector began to be highly invaded by charlatans who were out to make money thereby tempering and jeopardizing the efficacy of TM. It should be underscored that prior to the year 2000 especially the period 1970s-1990s, concerns of charlatans invading the sector were mild or less grave as fewer individuals posed as charlatans.

TM among the Nso and the Bakweri received wide acclamation especially before the year 2000. But, from the year 2000 onwards, the efficacy of IM has known diminishing returns in the lives of some Nso and Bakweri kin and kiths. Herein, we did investigate why at times TM known for its efficacy has turned to be ineffective when administered to some patients. The reasons are analyzed to raise the consciousness that the TM sector needs cleaning and or re-thinking. The

sectors needs rethinking by first identifying who is who, doing what and where. Secondly, it is important the government should be strict with implementing the 2024 law on traditional medicine, so that issue such as disrespect of deontology which have prevailed for several years will know decline.

Disrespect of deontology accounted for why TM appeared to have posed ineffectiveness in the lives of some patients in Nso and Bakweri ethnicities. There were rules governing TM which were undocumented, but have passed on from one generation to another. It should be intimated that, TM was practiced in accordance with the culture of the people with a lot of Dos and Don'ts. Adherence to these rules would contribute to the efficacy of TM, meanwhile non-adherence would contribute to inefficacy. Among the Bakweri and Nso is traditional deontology which many traditional doctors notably from the period 1820s to 1990s adhered to. These rules pertain to harvesting, preparation and storage. Before becoming a tradi-practitioner, an oath was administered containing the Dos and Don'ts.

> "I swear by the gods/ancestors.
>
> To carry out this oath with all ability.
>
> To respect my teacher and help him in need.
>
> To teach his children and others this art.
>
> To help and treat the sick within and out of the community
>
> I will never poison anyone.
>
> I will not help a woman to commit abortion.
>
> I will refer surgical problems to artisans in that field and not cut them myself.
>
> I will respect the body of man/woman I am treating, be her free or enslaved person.
>
> I will keep professional secret, and let the gods/and ancestors help me do what I have (Lantum, 1977).

Most tradi-practitioners have violated these clauses especially the one that stipulate that they should neither aid a woman cause abortion, nor to poison someone but to help treat patients. This was because of the quest for money. The consequences of them violating these oath were: the inefficacy of medications and the tradi-practitioner was attacked by an illness which sometime led to dead (Yarayen, 2016). All the steps in the treatment process for TM had rules that were to be followed strictly to guarantee the efficacy of TM.

For the rules governing harvesting of TM among the Nso and Bakweri ethnicities, there were many of them, but a few are captured here. The way herbs were harvested and the way theh are harvested significantly played and even plays a quintessential role on their functionality. The key questions guiding harvesting were: who was/is to harvest herbs to prepare concoctions or decoctions? When was/were/are herbs to be harvested? Where were/are they to be harvested? In fact, under what/which conditions are they to be harvested? Among the Bakweri, a traditional doctor and or someone sent by a traditional doctor could/can harvest the herbs following the directives as stated by the traditional doctor.

Besides, there were herbs which Bakweri traditional healers harvested only at nightfall (being naked), while others were/are not supposed to be harvested in the evening such as King Grass known in Bakweri as *Ewule a Hvako*. Bakweri harvested herbs in the surrounding environment and from the forest in their natural state. But what has been applicable in these recent times is the reverse, with some of the persons sent to harvest herbs not following the directives of the traditional doctor. And some traditional doctors have even gone to the extent of harvesting herbs at the wrong time. In the course of heavy rainfall accompanied by heavy windstorm, herbs were not/are not supposed to harvested (Mola Luma Mwambo, personal communication, 2024; Mola Mosio Ndombe, personal communication, 2024). Mola Mosio Ndombe, personal communication, 2024, opines that:

I was cautioned by my father that whenever there is a heavy storm, the herbs and the storm appear to have engaged in a fight. So in the course of the

fight, herbs get tired so they deserve to rest and regain their strength, and deserve not to be harvested. We have seasons that we usually experience(d) storms such as April and October. But, when you go and harvest during this period how do you expect the herbs to be effective? So what some traditional doctors did or usually do is that when they go to the forest, they harvest some of the medicinal herbs and keep in the house. So, that in case a patient comes during the period of stormy weather (April and October) thereby warranting the traditional doctor to use herbs, he shall use the reserved herbs which have not being affected by storm. In this case, the patient returned home feeling relatively well. But whenever any traditional doctor disrespects the rule of not harvesting herbs when they have been affected by strong wind instead goes ahead to harvest the wind-beaten herbs to prepare concoctions/decoctions then administer to the patient which never work. Traditional doctors harvest herbs at the wrong time, and at times, people sent by the old traditional healers to help them harvest herbs engage(d) in wrongful harvesting, where at times they are asked to peel tree bark from either one side, which does not face the direction of the oncoming wind or from opposite sides but, do the opposite by either harvesting from the direction of the prevailing wind which is not powerful or harvesting all round. Removing the bark of a tree all round even makes the tree and nature not to be happy with you because the act would lead to its death.

What makes some of the rules as cited by Mola Mosio Ndombe, personal communication, 2024, not to be adhered to, is because of the love for money. Because of money, people pay a blind eye to certain realities which could be of help to the majority. Initially, money was not prioritized before and after the preparation and administration of TM. But today, it appears that money is central as far as TM is concerned. Money is not everything about TM, but what matters is how it is gotten, prepared and administered and the results from its administration. During the 'pre-colonial' and early 'colonial' periods, TM was free. As stipulated in the above oath, TM was meant to "help" treat patients from diverse illnesses. Only items that were meant to perform sacrifices, like fowls, goats, palm oil, salt and firewood, were collected from patients (Shamase, 2021).

Among the Bakweri, as concerns the preparation and administration of TM, sanitation, experience and cautions were/have been key. For TM to be prepared and its effectiveness guaranteed, the services of an experienced traditional doctor are needed, proper sanitation upheld and sure advice on how to consume the concoctions/decoctions followed. On the contrary, what has been prevalent for close to two decades among the Bakweri is a scenario wherein the TM sector has been invaded by charlatans/novices/quacks who call themselves traditional doctors (just out for money) who do not adhere to the deontology and possess shallow knowledge on TM and cannot even give necessary (pre)-cautions as experienced traditional doctors would. And by the way, some patients even when given (pre)-cautions on how to take the concoctions/decoctions, they do not strictly follow, thus rendering TM appear ineffective. Poor administration of herbal concoctions/decoctions also contributed to making TM stand clouded by rains of inefficacy. In Nso, for example, cases have been recorded wherein the treatment of wounds instead led to cancer due to poor hygienic conditions (Sunjo, 2018).

The invasion of the TM sector by charlatans/ novices/quacks who call themselves traditional doctors/healers has stood to be a considerable challenge among the Bakweri and Nso and even a massive problem in Cameroon as a whole as opines Fai Fominyen as cited by Manyong, 1994:5 and Baaboh Fokunang, as cited by Ange Ngu, 2000. The prevalence of charlatanism, fraud/ fraudulence and abuse of confidence as asserts Fai Fominyen, generates pertinence and attention. They are weevils and bedbugs to the prestigious place/profession of TM. Charlatanism encompasses a drift from norms and practices by charlatans for egoistic gains. These charlatans who possess very little or questionable knowhow on TM pose as a threat to the efficacy of TM. The emergence of these charlatans posing to be healers has been a result of unemployment and

adventuring. These charlatans seem to be working more or less on luck and making TM not to have a good image. Any patient who went to them was healed by chance. How will the efficacy of TM not be put to question given that charlatans were at work posing to traditional healers more or less for the sake of money? This is in line with what Akinnawo & Akpunne, 2018:59 view which stands tenable of African traditional healing system invaded by quacks claiming to be traditional healers.

In Nso, for example, several associations of traditional healers put up an intense fight against charlatans, but their activities had persisted and are persisting. In 1973, the National Association of Traditional Healers met in Bamenda to condemn the activities of fake traditional healers who claimed to be money doublers. The president of the association, Simon Nkenehap called on members to be devoted and dedicated to treating patients (Cameroon Outlook, 1973). In 1979, members of the Bui sector of the National Association of Cameroon Traditional Doctors met at the Fon's palace to denounce the activities of fake traditional healers (Cameroon Tribune, 1979). The Divisional president, Joro Usheni Wirnkar rebuked suspicious acts commonly practiced by some unscrupulous members. According to him, these activities discredited the noble profession of healing, and he called on all members to practice within the ambit of the laws (Cameroon Tribune, 1979). In 1993, Elie Fih, a member of the Cameroon Association of traditional and pharmaceutical medicine warned the public that their profession had been infiltrated by charlatans who extort money from the masses. He also sent out seriou warning to those who disguised as traditional medicine practitioners to carry out dubious activities (Le Messager, 1993).

The love for money by traditional doctors or the projection of cash by traditional healers rather than being so much concerned about the healing and pain of the patient(s) has made TM among the Nso and the Bakweri to face inefficacy. Mola Jonde as cited by Ashu (2000) did lash out at some Bakweri traditional doctors who administered herbal treatment in exchange for money. Only time would prove these quacks wrong and that they were out rightly defying the deontology and ethics governing TM. Still among the Bakweri Mola Mosio Ndumbe, personal communication, 2024 and Mola Luma Mwambo, personal communication, 2024 opines sternly that (speeches of both interviewees were paraphrased for harmonization sake) some traditional doctors have prioritized money above the health of the patient(s) and do not even put themselves in the shoes of the patient(s). One of the golden rules of TM which Bakweri traditional healers of the twentieth century (1900-1999) held with high esteem was that TM did not have any monetary cost. Mola Lyonga Elali, personal communication, 2024, even confirms by insinuating that the person who trained me said that preference should not be given to money in the practice of TM. If you put money ahead then it will not work. So money should not come first, but be interested in seeing that the patient/ patients is/are treated and healed at the end of the day. This did not in anyway imply that if the patient deemed/deems it necessary to appreciate the traditional healer in kind by giving money he should not receive. So, TM was supposed to be provided free of charge, but the patient had to show appreciation in kind, towards the traditional healer after the administration of treatment or consumption of the concoctions and decoctions.

Traditional healers were not supposed to charge patients, but this is what some traditional healers do today. They charge fees that some patients were unable to pay.

Among the Bakweri and the Nso, illicitism and misbehaviourism stands as major drivers for the inefficacy of TM. Among the Bakweri for instance there have been traditional doctors whom have engaged in sexual promiscuity or extramarital affairs and some have even gone to the extent of maltreating their own children, and also engaging in land grabbing, double dealing, and usurping family property. Such practices did not just tarnish their image as traditional doctors but downplayed on the efficacy of the TM which they administered because according to the deontology

governing TM, Traditional Health practitioners are not supposed to indulge into such practices. In the yester years (1900s), it was seldom if not unheard of, that a traditional doctor was a party to land scamming, sexual immorality, corruption, dupery and so on. But since the year 2000, there have been traditional doctors whom have been involved in or perpetuated land scamming and even engaged in extramarital affairs. These even made some patients to distrust some of them and not even want to go to them for consultation, diagnosis or treatment (Mola Luma Mwambo, personal communication, 2024).

Another reason why Bakweri and Nso indigenes were administered TM and it was not effective in the treatment of varied diseases because of the patient's belief, mindset and focus. The Peoples' belief and mindset on TM was paramount in the treatment, administration and or consumption process. The patient's belief and mindset was necessary in the treatment process because if the patient disbeliefs in the efficacy of TM then it will not be effective for him or her but, in case the patient beliefs that the concoctions and decoctions given him or her could heal him/her, then the efficacy was guaranteed. Poor mindset about TM tried to defeat its potency and give the impression that TM was/is not effective. From mindset stems beliefs, so how can a patient expect the potency of TM while having a ridged mindset? Belief influences treatment and healing in all societies not just among the Bakweri and Nso which are our ethnicities of focus herein. Most traditional healers like Mola Ekema Njie and Mola Mosio Ndombe, personal communications, 2024, acknowledge (d) that mindsets and beliefs have either encouraged the efficacy or inefficacy of TM among the Bakweri. Emphatically, in the case of the Bakweri, Mola Mosio Ndombe, personal communication, 2024 posits:

A person is supposed to be a Doctor by him or herself before meeting a health practitioner. The fact that I intend to prepare a TM for Mola Ngomba and his heart is not in it, then it will be impossible for the concoction/decoction to effectively work out for his treatment. I will give you an example: My mother, if you tell her about somebody like Ekema Njie Monyenge or Mola Charle a Natar (Cale Lyonga Elali) when she is sick, her faith is that, she will tell had it being you went to the son of Natar Mefende then you can take TM and give me. When you collect them and she consumed them, she got well.

Besides, Mola Lyonga Elali, personal communication 2024, opines:

The heart disposition of the patient matters a lot in the treatment of the patient as far as the effectiveness of traditional medicine is concerned. In cases wherein the patient does not believe in the power of traditional medicine such a patient will only be deceiving family members encouraging him to give TM a try and to camouflaging show that he is also interested in it. I have witnessed a case wherein a patient was brought TM and he said '*that wona thing wey wona bringam or wona don doam for dey me a no go take or useam*'.

Drawing from Mola Mosio Ndombe and Mola Lyonga Elali, personal communication, 2024 it can be seen that faith and TM are interwoven in such a way that healing does not just depend on the consumption of concoctions and decoctions but on the firm belief of the patient in need of treatment and healing in the potency of TM. In some instances, people have visited Bakweri traditional healers in doubt, and this has rendered the efforts of traditional healers to be in vain. Even the Holy Bible exalts faith above doubt as a key value in human existence, and among Christians in particular (Matthew 17:20; Mark 11:23-24). Matthew 17:20 holds: "And Jesus said unto them, . . . If you have faith as a grain of mustard seed, you shall say unto this mountain, Remove from here to yonder place; and it shall remove; and, nothing shall be impossible unto you." (King James Version of the Bible). Faith can start the dissolution process of a mountain of disease even before consumption of TM. Consuming TM with faith in treatment/healing is plausible. Hence, both the faith of the Traditional Doctors and the patients can go a long way to hasten the treatment of the patient among the Bakweri. But in cases wherein the traditional doctor has faith that the patient will be treated and healed, but the patient does not, then

treatment/healing of the patient was impossible. Drawing from Matute Menyoli (1992), this was more or less the case with Mola Fonde Mokoko of Bova village, who after visiting the best traditional doctors for the treatment of his sudden dumbness which happened in 1957 resigned himself to the fate. His disbelief was more or less of an impediment to his being treated.

Besides faith, some indigenes of Bakweri and Nso origin denigrated TM, terming it as archaic and evil because they have been Christianized. So when this category of persons later on resorted to traditional medicine, it tended not to work in their lives. The question is how can you damn something widely proven to be effective and then you later on solicit its effectiveness and efficiency? Among the Bakweri, people think traditional medicine should not have any place but should be relegated to the background.

Christianization and evangelization through varied media such as television, radio, and face-to-face interaction have been a severe blow to the consumption of traditional medicine as some clergymen and clergywomen in their various ranks and file ill-speak of traditional medicine, discouraging their church members from engaging in the consumption of TM. Some of these clergies speak based on the poor/half-sided notion they have regarding TM.

Treatment not administered to deal with the root cause of the diseases impeded the efficacy of TM among the Bakweri and the Nso. Some diseases had to persist as treatment did not target the root cause. Some of the diseases were spiritually rooted besides, being spiritually rooted, some of the patients did not really open up how they felt. A good example was the *liengu* disease as pinpoints Matute (1990) in his book *Facing Mount Cameroon: An Ethnographic Study of the Bakweri*. But how could the root cause be determined if the patient(s) or the patient's relatives did not explain to the traditional healer how they felt? Mola Mosio Ndombe, personal communication, 2024, opines that TM has tended not to be effective among the Bakweri because some Bakweri did not open up about what was disturbing them and because some diseases had spiritual roots, which warranted that they should be attacked from their origins through effective treatment so, the administration of TM may prove inefficacy. Mosio Ndumbe, personal communication, 2024) holds that some of his patients concealed their main worry pushing him to get herbs for the treatment of disease the patient was not suffering from. But at times, he successfully diagnosed the exact ailment the patient was suffering from just by looking at the patient's face. This could be termed discernment, more or less.

Drawing from Iya Ngowo, 2024 one of the reasons why Traditional Medicine turns not to work in the lives of some Bakweri kin and kiths is because of the way it is handled and administered. Poor administration of Traditional Medicine renders its efficacy questionable. To Iya Ngowo, personal communication, 2024, before administering liquid TM to a patient, the person administering, herbalist or Traditional Doctor must have a little sip of it before administering it to the patient to wade off any doubts or suspicion from the patient on the efficacy of the TM. Some Traditional Doctors administer to patients concoctions and decoctions that in case they were the ones in the place of the patients given such to consume, they will never consume or refuse to accept so, therefore how should the efficacy be guaranteed in such a scenario?

According to Mola Ikomi Mwambo, personal communication 2024 and Mola Lyonga Elali, personal communication, 2024, Traditional Medicine seems to be ineffective because of the inconsistency of some patients in taking their decoctions and or concoctions as well as the sickness becoming chronic. Inconsistency in taking concoctions/decoctions has been a primary reason why some illnesses which were/are supposed to be treated and cured within a limited period prolonged and proved stubborn. For example, Mola Ikomi Mwambo has treated people with varied illnesses among which are frontal headache and haemorrhoids known locally as *pile*. At times, for frontal headache he noticed that the herbal treatment administered and consumed only temporarily allayed the sickness.

But, soon it resurfaced giving the impression of inefficacy, and this pushed him to re-treat. In the course of re- treatment, he had to use some more potent herbs (he refused to reveal these herbs for courtesy sake) to remove the frontal headache from the direction that the patients said they were feeling the pain. With the use of potent herbs he removed it and keep it at the stem of a plantain. But in most cases, the frontal headache sickness proved to be stubborn, thus trying to make the concoctions administered to the path of inefficacy. So, in the course of treatment of any chronic disease Mola Ikomi Mwambo, personal communication, 2024, does not always have the mentality that the illness will be cured so soon. When the sickness proves stubborn, the administration and consumption of concoctions and decoctions for treatment and healing will warrant considerable time for positive/ good/required results. This makes TM look as if depicting strands of inefficacy, but it is just a matter of time, patience, and observation for good results to be obtained. Besides, Mola Lyonga Elali, personal communication 2024, a practicing Traditional Healer struggling and hoping to have a license, has treated several cases of people suffering from illnesses such as: stroke, fevers, headaches, cough, abscess, Fungi infections, among others. His patients are both Bakweri indigenes and non-indigenes from places like Tiko and Buea. And the most recent case was his treatment of Madam Ngonde Koffi, who was attacked by a stroke in August 2024 after being overjoyed over her son's success in the GCE. Per contra, in 2023 he noticed that there was a stroke patient in Buea Town, he was administering treatment, still, he was not consistently taking the concoctions given him, so he decided to discontinue the treatment. He nonetheless noticed that there was some slight improvement in the patient's condition as the patient, who could barely walk, could take a walk from home to the Buea Town stadium, and even to the Buea Council and back home as the patient only sipped a little of the liquid concoction in the five litters container he gave. The inconsistency of the patient demotivated him and he decided to withdraw quietly and stop following the patient as he saw it as a waste of time.

The domestification of herbs has also quickened winds of inefficacy of TM among the Bakweri and the Nso. The establishment of little gardens or areas around the house where herbs are planted has had a ripple effect on their potency as their naturalness is usurped in terms of setting. In the periods 1860s to 1990s, herbs were mostly harvested from their natural habitats, but this is far from being the case today, as one cannot just move around and freely harvest herbs as before - given that most of the land is owned or under some sort of exploitation. Urbanization is a key driver of this pressure on land. So, to ensure the continuity of TM, traditional healers have engaged into the domestification of some herbs. Some of the traditional doctors have herbs which they have domesticated in little gardens, but these herbs cannot be as effective as those harvested from their natural habitats. The domestification of herbs is a common practice nowadays in the Bamenda grassfields where the socio-political and economic conditions, such as: land dynamics and the anglophone crisis have necessitated the keeping of these little gardens as report Arrey-Mbi and Pagbe Musah, 2023:16.

Urbanization and changes in agricultural practices have also affected the availability and potency of herbs needed by traditional healers. Urbanization characterized by expansion of infrastructural development is gradually making forest lands to come under pressure. With expansion in infrastructural development, even agricultural practices have drifted from purely traditionalist farming - with the use of organic manure to modern/industrial agriculture - with the use of inorganic manure and inputs such as: fertilizers, insecticides, pesticides, fungicides, among others. The advent of industrial agriculture with obvious characteristic spraying using chemicals has led to the disappearance of some herbs with spillover effect the scarcity of some herbs. Mola Lyonga Elali, personal communication, 2024, recounts that:

Spraying has spoiled our herbs. Today, everyone sprays their farms and compounds. Herbs have become scarce. Herbs and trees of medicinal value are disappearing. I have to go far and wide to source for herbs. I usually go as far as Ekonjo

to source for herbs. On arrival at Ekonjo, I usually paid people to go in of the herbs I need. Fortunately, I usually the searchers got the herbs I was in need of. I return and use them to prepare concoctions and decoctions.

What Mola Lyonga Elali, personal communication, 2024, opines is also seen as a grave issue by Asongu and Eseokwea, 2021:162, who asserts that the usage of pesticides and herbicides by CDC in Tiko and Moquo, has resulted to the disappearance of medicinal herbs in the localities. Medicinal herbs such as fever grass used for the treatment of fever, yellow leaves utilized as blood medicine, and '*enangaijoh*' utilized for the treatment of ring worm among other skin-related ailments have faced extinction, and seldom should/would anyone come across them in any of the localities. In Fako Division, which is known as the ancestral land of the Bakweri, deforestation for the sake of lumbering, and farming, has generally had its brunt on the practice of traditional medicine in myriad of indigenously-cosmopolitian communities we have in the division as the fuel to traditional medicine which are herbs have become difficult to find or come by and some communities which formerly had some/myriad tradi- practitioners no longer have them, while in others the number of tradi-practitioners has declined. Besides, the issues of urbanization, deforestation and change in agricultural practices have been a blow to TM as among the traditional healers of the Bamenda Grassfields and Nso not left out: having easy accessibility to herbs in their natural state has become complicated and worrisome. Some traditional healers of the area had to go to the extent of buying tree barks and powder to do a mixture with various herbs for the treatment of patients that came their way seeking help with varied health conditions (Arrey-Mbi and Pagbe Musah, 2023: 16).

The issue of diagnosis and detection of the exact illness (es) that a patient suffers from has stood to be one of those concerns which have affected the efficacy of TM among the Bakweri and Nso. Just the fact that diagnosing what the patient is suffering from is based on preliminary findings through oral question and answer session is already a limitation as some patients can conceal the exact condition(s) affecting them. Information given by patients about their health condition to the traditional doctor sometimes has been questionable and doubtful. This did render treatment complex and even delaying healing, which could take a short period to be evident. Mola Ekema Njie, personal communication, 2024, is of the opinion that the trade of traditional medicine is in levels. There are those whom are into herbalism and there are those whom are into divination/soothsaying and for anyone to practice divination/soothsaying, he or she needs to be initiated. His assertion aligns with that of Asongwe (2021:28; Arrey-Mbi and Pagbe Musah, 2023: 8, 11). And Mola Ekema Njie, personal communication, 2024, states clearly that whether the patient visits a herbalist or a diviner, once as there are no proper diagnosis the disease can not be properly treated and cured and he also notes that he has had such cases. He also notes that some traditional doctors administer concoctions and decoctions without proper diagnosis done as is the case of the hospitals wherein lab test are done. This cues Njodzeka, Bulowah and Ngwoh (2024: 98) whom say the method utilized in the treatment of patient prior to commencement of treatment differs. Medics use scientific labs for diagnosis so as to ascertain what prompted the sickness but traditional healers depend on divination and prognosis as a diagnostical method to acquaint themselves with how the sickness could be treated. Divination and prognosis gives the traditional healer insight whether the sickness is physically or spiritually rooted. Diagnosis in TM, falls within the level of soothsaying but how many people consult diviners/soothsayers today given the porosity and usurpation of divination/ soothsaying for personal and egoistic gains and even given the difficult socio-political climate faced by Cameroon's South West and North Regions ruralists and urbanists/ inhabitants?

The ways mixtures of herbs and other supplements are prepared have also tended to influence the efficacy of TM in the Bakweri and Nso communities. Mixing of herbs and supplements such as: barks of trees, water and

different oil(s), or powdery substances have raised the contention of quantification. Poor mixing, improper mixing or erroneous mixing has at times led to complications, aggravations, under dosages, or over dosages. Mola Mwambo, personal communication, 2024, comments all herbs are medicinal in nature but knowing which ones to mix for the treatment and cure of which disease(s) matters. The combination of herbs matters much as far as traditional medicine is concerned but when the herbs are not well mixed or their combination is not suitable for the treatment of the disease, how should we expect the mixture to be effective?

II. CONCLUSION/RECOMMENDATION

The medical properties of herbs are complex and require continuous study to fully understand their therapeutic potentials. TM is guided by spiritual beliefs, cultural traditions or historical knowledge. The beneficiality, cruciality and dignity of herbs cannot be overemphasized as their content, employment and influence of the herbs chewed, ground, squeezed to extract liquid or placed on the sick, has always guaranteed human well-being. The continued reliance on herbal medicine underscores its significance in traditional health care systems. How man has used herbs at various times has awoken questions of effectiveness and ineffectiveness. Some herbs have proven medicinal value, while others are unverified or potentially harmful. Not knowing the potency is liable to awaken herbal inefficacy or misuse. This warrants the needfulness of herbal education at different times.

The inefficacy/efficacy of TM as has come under examination in this article taking the cases of the Bakweri and the Nso is more or less a reflection of what prevails countrywide in Cameroon, and in other African countries. In this article, we have tried to raise a succinct debate on the question of efficacy and inefficacy of TM. Debatably, the fact that TM performed the miraculous in guaranteeing the betterment of human health capital was and is still a plus, but on the other side of the debate table how can we experience the efficacy of TM when research on its products and practices have been sparse or limited? How will traditional medicine not be inefficient and ineffective when perceptions, prescriptions and usage, leaves less to be desired in some case scenarios? How will inefficacy not characterise traditional medicine when modernization, christianization and evangelization tries to tarnish the image of TM? The popping up of strands of inefficacy does not cancel the fact that herbs of various kinds are still sought after in different parts of the World to satisfy humankind's health needs.

As per the World Health Organization statistics, eighty per cent of the population of Africa South of the Sahara depend on TM for their therapeutic health care needs. This is sufficient evidence that TM was/is effective in treating illnesses. Though some scholars were of the opinion that the reliance on TM was because it was cheap and available, this argument is lame, given that even the poorest people will go to any length for the restoration of their health. Before the introduction of biomedicine, TM was the only source of therapy and people live healthier with long lifespan. TM only failed to be effective when the necessary conditions to stimulate and trigger its effectiveness were not made by the traditional doctor and the patient. Some of these triggers were/are meeting the right traditional healer, targeting the illness from the root cause, believing in the medication, administering the concoction as prescribe, and trying to see how either treatable or curable the disease could or can be. It should be noted that no matter how effective/ efficient TM was/is and no matter how the patient may believe in the concoction, illnesses whose end result was death could not be treated. The study recommends that the government, NGOs, and traditional medicine associations step up the fight against charlatanism to clean the sector from those who extort money from the poor masses. That is by going beyond policy directives to policy activism. The study also recommends that these bodies should grant subsidies to genuine traditional healers to encourage them in the practice of the trade. The government should also ensure that only license traditional healers practice TM in other to regulate the sector. When all these and more will be done, the TM sector will go a notch higher in terms of organization.

There is therefore the expedient need to rethink the future of Traditional Medicine in Africa and Cameroon in general and particularly the Nso and Bakweri ethnicities. The future of TM is at stake. The sector has witnessed a profound metamorphosis which has paradoxically affected it very foundations and practicality with some complex issues cogwheeling its evolution. Among the issues are are disunity among some traditional doctors, policy lapses and government's prolonged neglect of the TM sector. So, the efficacy of traditional medicine is further complicated by government's lackluster attitude towards TM. How can we be talking about the efficacy of TM when many mindsets are stereotypical towards TM? Besides, how can we be talking of the efficacy of TM, where the environment from which herbs are extracted suffers from environmental malaise? How can we be talking on the effectiveness of TM in a context wherein there appear to be some considerable severe winds of depatronization which keeps hitting and eating up the banks of TM shallowly towards its core? Why should there not be a deep revisiting of the glorious days of TM as a way to inform and benefit the current state of TM? Should traditional doctors continue the crying game of how their noble, and unique profession have faced the invasion of charlatanism, and the government appears to be lukewarm towards arresting the situation, or leaves the traditional doctors to deal with the problem themselves, by cleaning their tears and sought out ways to deal with the charlatans? Why would nature not get angry at quacks who call themselves traditional doctors, with little or no knowledge of TM for nature will certain expose the quacks in due season(s) as inefficacy rays will dawn on their concoctions and decoctions? How can we be talking of the efficacy of TM in these contemporary times, when among traditional doctors rains of disunity, jealous, envy and backbiting prevail? The potency of TM deserving heralding is instead denigrated by some Cameroonians who have instead experienced either some adverse side effects of TM or consumed concoctions and decoctions not well prepared. But it does not mean that if TM presented some adverse side effects to them/you due to poor administration, storage and consumption, then it is not effective and efficient.

Lastly, Law No. 2024/018 of 23 December 2024, Relating to the Organization and Practice of Traditional Medicine in Cameroon, would have its enforcement to deal with concerns of charlatanism, misconduct of traditional healers and sorting, preparation, administering, and consumption of herbal remedies/concoctions/ decoctions as raised in this article should experience a downturn or would not be tolerated at all as only those whom will be licensed will undoubtedly be allowed to practice, misconduct sanctioned and patients' rights and privileges protected from extortion. The (new) law comes to put in some order in a sector which has for more than ten decades begged for order and full legalization in a country wherein, TM's valuation has been mean on a nationwide scale and insulted, relegated to the background and even considered as fetish. The enforcement of the new law should help take the efficacy of TM a notch higher as the rightful people trained will practice and the rightful results got. The new law will either sooner or later come under criticism. But whatever the case, it is a vital step taken by government to express her interest in the sector, pledging support technically, financially, socially and cautiously. The law brings some freshness in the field of TM, which will only make (great) meaning through some administrative, judicial and socio-cultural collaborative and reactive actions.

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Interviews

S/N	Name	Age	Profession	Place	Date
1	Mola Mosio Max Ndombe	55	Farming, Herbalist	Bokwaongo	September 8, 2024
2	Mola Marti Ikomi Mwambo	48	Farming, Herbalist/Traditional Healer	Bokwaongo	October 15, 2024
3	Mola Luma Francis Mwambo	55	Farming, Herbalist/Traditional Healer	Bokwaongo	September 27, 2024
4	Iya Ngowo Regina Petro	40+	Farming	Bokwaongo	August 23, 2024
5	Mola Cale Lyonga Elali	54	Farming, Traditional Healer	Bokwaongo	December 22, 2024
6	Mola John Ekema Njie	49	Carpentry, Traditional Healer	Na'anga	December 22, 2024
7	Mola Joseph Mwambo	60	Farming, Motor Electricity	Bokwaongo	December 26, 2024
8	Yarayen Mohamadou	45	Traditional Healer	Nseh	February 16, 2016
9	Shumase Emmanuel	54	Traditional Healer	Jakiri	April 10, 2020
10	Sunjo Leonard	75	Medical Doctor	Kumbo	August 18, 2018

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How to use Alternative and Natural Medicine in the 21st Century Part VII

Dr. Rebecca L. Burkett

ABSTRACT

For community engagement participants in activities or social support groups can create a sense of belonging and shared understanding.

The Integrative and Alternative Therapies are as follows: Acupuncture: A traditional Chinese medicine practice that involves inserting fine needles into specific points on the body. It can be beneficial for pain relief, stress reduction, and improving energy flow. Chiropractic Care: This can help with spinal alignment, which, in turn, supports nerve health and overall physical well-being.
Herbal and Natural Remedies: While not a substitute for medical treatment, certain herbs and supplements can support the body's healing process (e.g., turmeric, ginger, CBD).

Keywords: NA

Classification: NLM Code: WB 890

Language: English

LJP Copyright ID: 392823

Great Britain Journals Press

London Journal of Medical & Health Research

Volume 25 | Issue 3 | Compilation 1.0

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For community engagement participants in activities or social support groups can create a sense of belonging and shared understanding.

The Integrative and Alternative Therapies are as follows: Acupuncture: A traditional Chinese medicine practice that involves inserting fine needles into specific points on the body. It can be beneficial for pain relief, stress reduction, and improving energy flow. Chiropractic Care: This can help with spinal alignment, which, in turn, supports nerve health and overall physical well-being.

Herbal and Natural Remedies: While not a substitute for medical treatment, certain herbs and supplements can support the body's healing process (e.g., turmeric, ginger, CBD).

Body-Mind Connection: Somatic Therapy: This involves the exploration of physical sensations to address stored trauma or emotional blocks within the body. It can include practices like yoga, bodywork, or somatic experiences.

Breathwork: Conscious breathing can help activate the parasympathetic nervous system, promoting relaxation and aiding in emotional release.

Medical Interventions: While non-traditional therapies are often highly beneficial, there are times when medical interventions such as medications, surgery, or physical therapy are necessary. It is important to collaborate with medical professionals to ensure the best course of action to be taken. Self-Awareness and Self-Care:

Listening to the Body: Healing often involves tuning in to your own body's needs.

Setting Boundaries: Protecting your energy and setting boundaries, whether physical or emotional, is key to long-term healing. Everyone's healing process is unique, and what works for one person may not work for another. Integrating a combination of these considerations can create a comprehensive approach that nurtures every aspect of one's being.

I. INTRODUCTION

When considering therapeutic healing, especially in the context of physical, emotional, or mental well-being, there are several factors and approaches that can be taken into account for a holistic treatment plan. Here are some other important considerations: Personal Beliefs and Spirituality, Impact on Healing: Personal beliefs can play a significant role in how a person approaches healing. Spirituality, whether it involves religion, meditation, or personal philosophical. Therapeutic Approaches: Mindfulness, meditation, energy healing (like Reiki Emotional and Psychological Support Mental Health, Stress Management: Chronic stress can impede healing. Techniques such as deep breathing exercises, progressive muscle relaxation, or guided imagery can reduce stress and facilitate the healing process. Lifestyle and Environmental Factors. Diet and Nutrition. Exercise. Positive relationships can also reduce feelings of isolation, which might otherwise delay healing.

Alternative healing modalities encompass a wide range of practices that are not typically part of conventional medicine. They refer to non-traditional approaches to healthcare and wellness, focusing on treating the whole person, including their physical, mental, emotional, and

spiritual well-being. These modalities promote natural healing processes within the body and restore balance.

Types of Alternative Healing Modalities:

Chiropractic care focuses on aligning the spine and musculoskeletal system through manual adjustments. It emphasizes the relationship between the structure of the body, particularly the spine, and its function. Chiropractors use hands-on techniques to manipulate the spine, joints, and muscles to alleviate pain, improve mobility, and support overall well-being. Chiropractic care is commonly sought for conditions such as back pain, neck pain, headaches, and musculoskeletal disorders.

Herbal medicine, also known as herbalism, utilizes plants' medicinal properties for healing. Practitioners use various parts of plants, including leaves, flowers, stems, and roots, to create remedies for different health conditions. Herbal medicine is based on the belief that the body has the innate ability to heal itself, and plants can support and enhance this natural healing process. Different herbs have specific properties that can target various systems and functions in the body, making herbal medicine a versatile form of treatment.

Reiki is a Japanese healing technique that involves the transfer of energy from a practitioner to a client. The practitioner uses light touch or hovers their hands over specific areas of the body to channel healing energy. Reiki is based on the belief that life force energy flows through all living things, and disruptions to this energy can lead to health issues. Reiki is often used to promote relaxation, reduce stress, and support the body's natural healing processes.

Energy healing encompasses various modalities that work with the subtle energy fields within and around the body to restore balance and promote healing. These modalities include techniques such as Qigong, Pyranic Healing, and Healing Touch. Energy healing practitioners aim to remove blockages and imbalances in the body's energy field, which they believe can manifest physical or emotional ailments. By restoring the flow of energy, energy healing can facilitate healing on multiple levels.

Meditation and Mindfulness: Practices that cultivate present-moment awareness and inner stillness. They are effective in reducing stress and anxiety and improving mental health.

Metaphysics and esoteric sciences are both fields that delve into the nature of reality, existence, and the unseen forces that influence the universe. While they overlap in some areas, they approach these subjects from different perspectives and methods.

II. METAPHYSICS

Metaphysics is a branch of philosophy that investigates the fundamental nature of reality. It deals with questions like:

What is existence?

What is the nature of time, space, and causality?

What is the relationship between mind and matter?

What is the nature of being and the universe?

Metaphysics attempts to understand the underlying principles and structures that govern reality, often addressing abstract concepts like existence, identity, cause and effect, and possibility.

Historically, metaphysics has been associated with thinkers such as Aristotle, Immanuel Kant, and René Descartes. It provides the groundwork for many other branches of philosophy, like epistemology (the theory of knowledge) and ethics (the study of moral principles).

Esoteric Sciences:

Esoteric sciences, often considered a more mystical or spiritual branch of knowledge, deal with hidden or secret wisdom, often believed to be accessible only to a select group of people or through specific practices. These sciences can encompass a variety of systems and traditions, including:

Alchemy: The ancient practice that seeks to transform base materials (like lead) into gold,

symbolizing spiritual transformation and the quest for enlightenment.

Astrology: The study of celestial bodies' influence on human affairs, often considered an esoteric science in some traditions.

Kabbalah: A mystical and esoteric interpretation of Jewish teachings, focusing on the nature of God, the universe, and the soul.

Hermeticism: A tradition of esoteric thought attributed to the mythical Hermes Trismegistus, often combining elements of alchemy, astrology, and spiritual philosophy.

Occultism: A broad term covering various practices, including divination, magic, and the study of hidden spiritual forces.

Esoteric sciences often emphasize inner knowledge, spiritual development, and the idea that there are hidden layers to reality that can only be understood through direct experience, intuition, or initiation into particular teachings.

2.1 Overlap Between Metaphysics and Esoteric Sciences

Both disciplines deal with the unseen and the unknown aspects of existence.

Metaphysics may sometimes be considered esoteric, particularly when dealing with abstract ideas that cannot be directly perceived or scientifically proven.

Esoteric traditions often draw on metaphysical principles to explain the nature of the universe, the soul, and spiritual growth.

In modern times, some individuals study metaphysics and esoteric sciences as part of their personal spiritual or philosophical exploration, often seeking to understand life's deeper meanings and the forces that shape our world.

When it comes to the Metaphysic and Esoteric world, there are many signs to know. Which is quite interesting:

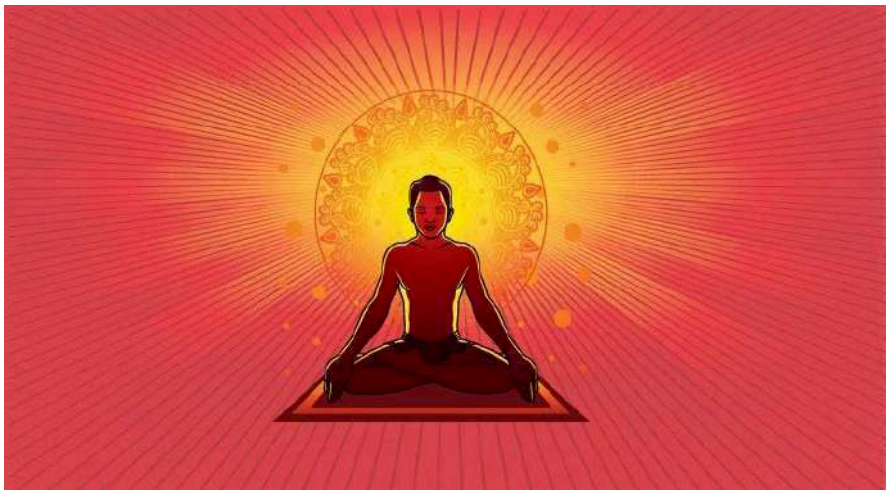

Fig. 1

Fig. 2: The Chakra Symbol

Fig. 3

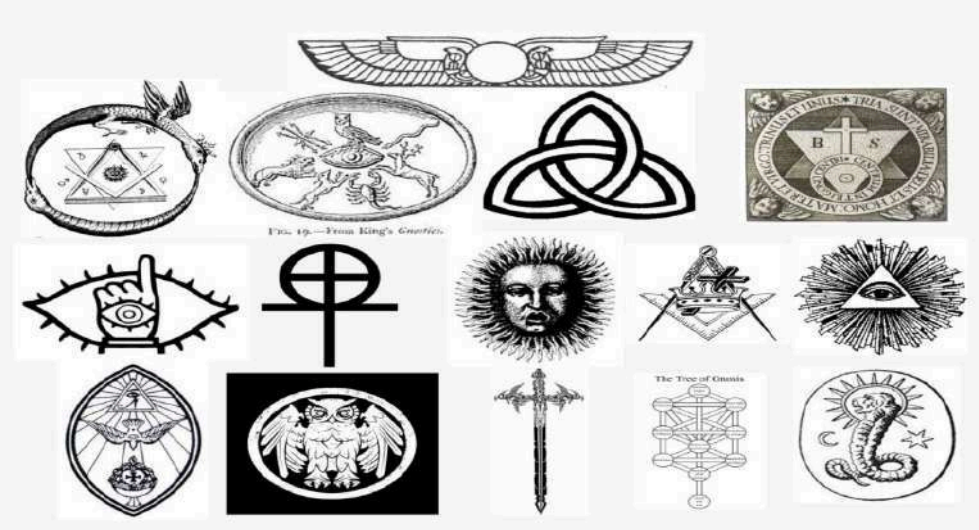

Fig. 4

There are similar signs and symbols of Metaphysics and Esoteric symbols that you may already know.

The questions you want and need to ask yourself to feel relieved about your life:

You feel disconnected or detached. At first, the spiritual awakening process ...

You've reevaluated your beliefs. Richardson notes a spiritual awakening will ...

Your dreams are more vivid. Not only is your waking life more vivid as a result ...

You experience more synchronicities and déjà vu. If you're frequently ...

See the full list on mindbodygreen.com

Global web icon

yourspiritualinsider.com
https://yourspiritualinsider.com› spiritual-awakening-signs

12 Spiritual Awakening Signs You Shouldn't Ignore

Nov 21, 2024, Discover the key spiritual awakening signs, including emotional shifts, physical symptoms, and intuitive awareness. Learn how to embrace your journey and uncover your ...

Videos of Metaphysical Signs

bing.com › videos

15 Most Powerful Spiritual Symbols - Their Meanings and How to Use Them

15 Most Powerful Spiritual Symbols - Their Meanings and How to Use Them

YouTube Spiritual Insights

Short videos of metaphysical signs

Experiencing the Metaphysical World (Damien Echols)

Experiencing the Metaphysical World (Damien Echols)

Understanding Spiritual Signs from the Universe

7 Signs a Spirit Guide Wants to Connect With You (Part 1)

Understanding the Spiritual Signs: Ancestral Communication Guide

@the. metaphysical. mermaid

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Metaphysics for Beginners

10 signs of spiritual awakening
12 symptoms of spiritual awakening
12 signs of awakening
spiritual signs and symbols
7 signs of spiritual transformation
signs of an awakening
spiritual signs from loved ones
23 undeniable signs of angels

III. CONCLUSION

In conclusion, alternative and natural medicine offer a broad spectrum of approaches to health and healing, often emphasizing holistic care, prevention, and the use of natural substances. While these practices can provide benefits, such as fewer side effects or a more individualized treatment plan, it is important to acknowledge that they vary widely in their effectiveness. Some methods are well-researched and have compelling evidence supporting their use, while others may lack scientific validation.

As with any form of healthcare, individuals must approach alternative and natural medicine with discernment, considering both potential benefits and risks. Consulting with healthcare professionals who are knowledgeable in both conventional and alternative treatments can help ensure a balanced, safe, and informed approach to wellness. Additionally, integrating alternative therapies alongside traditional medicine, when appropriate, may lead to the best outcomes for overall health.

RESOURCES

1. Quantum Healing Pathways, https://quantumhealingpathways.com/holistic-and-mind-body-approaches/holistic.
2. Medicover Hospitals https://www.medicoverhospitals.in/articles/power-alternative-therapies-holistic-wellness
3. Hellomyyoga courses, https://courses.hellomyyoga.com/s/store
4. Microsoft Bing, Images for Metaphysical Signs and symbols

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Flaps vs. Wet Dressings for Fingertip Injuries in Occupational Patients

Dra. Mariana Gibertti & Dra Maria Angela Kibysz

INTRODUCCIÓN

Fingertip injuries are common injuries in hand pathology and sometimes extremely disabling (1). The main objective of treatment is to achieve a functional and cosmetic result with adequate thickness of the pulp, digital length (2,3,4), recovering distal sensitivity and function, with a prompt return to the work environment. Depending on the type of injury, several options are available in the literature (5). When reimplantation is not possible due to anatomical or logistical reasons, local or regional flaps are a useful alternative to obtain early coverage (4). In this work we contemplate the use of wet dressings (semi-occlusive bandage) as a definitive treatment for finger injuries with or without bone exposure, since we achieve optimal results in the short term (6 months) with this method. The objective of this work is to compare the results obtained in the treatment of these injuries with the methods used in our environment.

Keywords: NA

Classification: NLM Code: WG340

Language: English

Great Britain Journals Press

London Journal of Medical & Health Research

Volume 25 | Issue 3 | Compilation 1.0

Flaps vs. Wet dressings for Fingertip injuries in Occupational Patients

Colgajos vs Curas Húmedas Para Lesiones de la Punta de Los Dedos en Pacientes Laborales

Dra. Mariana Gibertti[α] & Dra Maria Angela Kibysz[ρ]

Author: Instituto de la mano. Misiones. Argentina

I. INTRODUCCIÓN

Las lesiones de la punta de los dedos son lesiones frecuentes en la patología de la mano y en ocasiones extremadamente incapacitantes (1). El objetivo principal del tratamiento es lograr un resultado funcional y cosmético con un adecuado grosor del pulpejo, longitud digital (2,3,4), recuperando la sensibilidad distal y la función, con un pronto retorno al ámbito laboral. De acuerdo al tipo de lesión, varias opciones se encuentran a disposición en la bibliografía (5), cuando el reimplante no es posible por cuestiones anatómicas o logísticas, los colgajos locales o regionales son una alternativa útil para obtener la cobertura temprana (4); en este trabajo contemplamos el uso de las curaciones húmedas (vendaje semioclusivo) como tratamiento definitivo para las lesiones de los dedos con o sin exposición ósea, ya que logramos con este método resultados óptimos en el corto plazo (6 meses). El objetivo de este trabajo comparar los resultados obtenidos en el tratamiento de estas lesiones con los métodos utilizados en nuestro medio.

II. MATERIALES Y MÉTODOS

Se evaluó retrospectivamente el resultado obtenido en el tratamiento de 86 dedos correspondientes a 76 pacientes con lesiones de la punta de los dedos que fueron atendidos entre los años 2016 y 2023 por el equipo de miembro superior.

Todos fueron asistidos por las mismas profesionales utilizándose cuatro métodos distintos de tratamiento. Todos los pacientes aceptaron el consentimiento informado para realizarlo.

Los criterios de inclusión fueron: lesión de la punta de los dedos largos con o sin compromiso óseo y que sean pacientes en conflicto laboral.

Para dividirlos en tipo de lesión se tomó como referencia a la clasificación de Allen, expresados en valores absolutos de dedos y manos obteniéndose así tres grupos. El tipo de lesión se expresa en valor absoluto y proporción para cada una de las categorías: aquellos con compromiso del pulpejo equivalente a lesiones tipos C y D de Allen; los que presentan compromiso adicional de la uña, equivalente a lesión tipos B y D de Allen, y aquellos dedos con fractura de F3 (tercera falange), equivalente a lesiones tipo A de Allen. La descripción de cada una de las técnicas mencionadas excede el objetivo de este trabajo.

Se comparo el tiempo hasta la curación completa desde el día de la lesión hasta alta tomando el promedio de días. Se tomó la cantidad de pacientes que requirieron reintervención sobre el total de los incluidos en el estudio para luego obtener el resultado comparativo. El dolor se evaluó según la Escala Visual Análoga del dolor (EVA) al final del tratamiento. En cuanto a la sensibilidad final en el corto plazo, utilizando la evaluación con monofilamento que discrimina la identificación de dos puntos, y cuyo valor considerado normal es aquel menor a 6mm. La satisfacción fue evaluada según el criterio subjetivo de los pacientes para cada dedo como insatisfactoria, satisfactoria o muy satisfactoria.

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Además, se registraron y analizaron las siguientes variables: a) sexo: se describen la cantidad absoluta, y la proporción de hombres y mujeres, b) edad: se expresa el rango etario de la muestra, la edad promedio con dos errores estándar en más o en menos y la mediana con cuartiles en 1 y 3, c) el tipo de tratamiento se expresó en valor absoluto: para los colgajos se los dividió en tres categorías: 1. Colgajo de avance V-Y, 2. Colgajo Cross Finger y 3. Colgajo en Isla.

III. RESULTADOS

De 86 dedos tratados, 44 dedos afectaron la mano NO hábil. Del total 33 presentaron lesión del pulpejo, 16 tenían lesión adicional de la uña y 37 tenían compromiso óseo. 47 dedos *(figura1)* recibieron tratamiento con vendaje semioclusivo (curas húmedas) y a 39 de ellos se le realizó colgajos de cobertura (24 dedos recibieron tratamiento con colgajo de avance en V-Y *(figura2),* 7 recibieron tratamiento con colgajo cross finger *(figura 3)* y 8 pacientes recibieron colgajo en isla *(figura 4))*. La edad media de lesión fue de 38 años, siendo más prevalente la lesión en hombres. Del total de dedos tratados 9 requirieron reintervención (11.6%), de los cuales 5 recibieron tratamiento con vendaje semioclusivo (10,6%, n=47) y 4 recibieron tratamiento con colgajos (10,2% n=39) *(tabla.1 anexo tablas)*. Al evaluar el dolor mediante la Escala Análoga del dolor, estos valores fueron del 1 al 3, siendo 3 mas prevalente en aquellos pacientes que recibieron tratamiento con colgajos (n=3). En cuanto a la discriminación de dos puntos evaluada con el test del monofilamento, 21 pacientes (54%) tratados con colgajos de cobertura obtuvieron un valor mayor a 6mm en la prueba de discriminación de dos puntos que considera como normales resultados por debajo o igual a ese valor; en contraposición, aquellos tratados con vendaje semioclusivo solo el 13% (6 pacientes) obtuvieron un valor discriminatorio mayor a 6mm en el corto plazo. En cuanto a la satisfacción del paciente, 38 de los 47 pacientes con curas húmedas (81%) y 24 de los 39 tratados con colgajos (61,5%), refirieron estar muy satisfechos con los resultados obtenidos. En cuanto al tiempo para el retorno laboral, aquellos que recibieron tratamiento con colgajos lo hicieron mayormente luego del promedio obtenido del total de 50 días (69%, dos dedos se encuentran dentro de los que recibieron reintervención, comparado con el 21% de los pacientes tratados con curas húmedas siendo 5 dedos los del grupo reintervenido). *(tabla.2 anexo tablas)*

Fig. 1: Lesión de la punta de los dedos tratada con apósito de sujeción intravenoso

Fig. 2: Lesión de la punta de los dedos tratada con colgajo de avance V-Y

Fig. 3: Lesión de la punta de los dedos tratada con colgajo cross finger. *POP: postoperatorio

Fig. 4: Lesión de la punta de los dedos tratada con colgajo en isla (cuarto dedo)

IV. DISCUSIÓN

Para el tratamiento de la lesión de la punta de los dedos, todos los tratamientos alternativos al reimplante mostraron ser de gran utilidad para resolver la patología devolviendo el contorno del dedo y su función (6), todos prometedores algunos con desventajas innatas(1). Para este trabajo se ha tomado como referencia literatura basada en revisiones y estudios multicéntricos que definieran el tratamiento más adecuado para este tipo de patología cuando la logística, el costo, la localización, la contaminación o isquemia prolongada son un contratiempo para el reimplante dando lugar preferente de tratamiento a los colgajos (4) y a las curas húmedas.

Cuando se piensa en colgajo en isla también pensamos en el riesgo de la perdida de vitalidad del mismo, en la intolerancia al frio (1,4,7,8,9), en la posibilidad de la rigidez articular asociada y en la morbilidad del sito dador. Con los cross finger o los V-Y esto aparece en menor cuantía. Siendo minimizado casi completamente cuando se utiliza el vendaje semioclusivo, que además permitiría al paciente trabajar durante el periodo de curación (5); el tratamiento con colgajos de avance o en isla tienen la desventaja del prolongado tiempo de ausencia al trabajo (9). Todos los trabajos revisados asocian la deformidad ungueal a los colgajos de avance (10,11), siendo esto poco representativo en aquellos pacientes tratados con curas húmedas.

El vendaje semioclusivo o curas húmedas, tiene como desventaja descripta la poca aceptación del paciente al tratamiento dado el olor que emana del vendaje (12,13) en nuestro medio podemos confirmar que esta afirmación es muy poco referida por los pacientes, logrando una aceptación del 100% a este tipo de tratamiento. Creemos que el dialogo con el paciente es fundamental para lograrlo así como para todos los tratamientos a seguir.

V. CONCLUSIÓN

En nuestra población evaluada, la conclusión que obtenemos es que el vendaje semioclusivo es ventajoso en casi todos los aspectos, recuperando la lesión con un resultado estético referido como muy satisfactorio por la mayoría de los pacientes, quienes además no presentan intolerancia al frio ni morbilidad del sitio dador o defecto ungueal. Así mismo estos pacientes presentan una rápida reincorporación a las actividades laborales habituales, siendo fácilmente reproducible con un costo mucho menor.

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Tabla 1

Caso	Edad	Sexo	Mano Hábil	Dedo	Tipo De Lesión
1	38	M	no	mayor derecho	fractura f3
2	48	M	si	anular derecho	con uña
3	27	M	si	mayor derecho	fractura f3
4	47	M	no	anular izquierdo	con uña
5	46	F	si	mayor derecho	pulpejo
6	56	F	si	anular derecho	fractura f3
7	47	M	si	mayor derecho	fractura f3
8	31	M	no	anular izquierdo	fractura f3
9	45	M	no	mayor izquierdo	pulpejo
10	44	M	no	anular izquierdo	pulpejo
11	58	M	no	anular izquierdo	fractura f3
12	38	M	no	mayor izquierdo	con uña
13	24	M	si	mayor derecho	pulpejo
14	27	F	no	anular izquierdo	pulpejo
15	62	M	si	mayor derecho	fractura f3
16	46	F	SI	índice derecho	fractura f3
17			SI	mayor derecho	fractura f3
18	35	M	NO	índice izquierdo	fractura f3
19	23	M	NO	anular izquierdo	con uña
20	27	F	SI	índice derecho	con uña
21	40	M	NO	anular izquierdo	pulpejo
22	25	M	NO	mayor izquierdo	pulpejo
23	64	M	NO	mayor izquierdo	fractura f3
24	31	M	SI	mayor derecho	pulpejo
25	55	M	si	mayor derecho	pulpejo
26			si	anular derecho	con uña
27	56	M	no	mayor izquierdo	pulpejo
28	29	M	no	anular derecho	pulpejo
29	38	F	no	mayor izquierdo	pulpejo
30	38	M	si	mayor derecho	pulpejo
31	56	M	si	mayor derecho	con uña
32	29	M	no	mayor derecho	fractura f3
33			no	mayor izquierdo	fractura f3
34	46	M	no	mayor izquierdo	pulpejo
35	65	M	SI	mayor derecho	fractura f3
36			SI	anular derecho	pulpejo
37	42	F	SI	índice derecho	pulpejo
38	23	M	NO	mayor izquierdo	pulpejo

39	29	M	NO	mayor izquierdo	pulpejo
40	26	M	NO	mayor derecho	con uña
41	32	M	NO	índice derecho	pulpejo
42	32	M	NO	índice izquierdo	fractura f3
43	39	M	NO	mayor izquierdo	pulpejo
44			SI	anular izquierdo	fractura f3
45	26	M	SI	anular derecho	fractura f3
46	38	M	SI	anular derecho	pulpejo
47	33	M	SI	mayor derecho	fractura f3
48	36	M	NO	índice derecho	fractura f3
49	45	M	NO	mayor izquierdo	pulpejo
50			SI	anular derecho	pulpejo
51	40	M	NO	índice izquierdo	pulpejo
52			NO	mayor izquierdo	pulpejo
53	29	M	NO	mayor izquierdo	fractura f3
54	28	M	SI	menique derecho	fractura f3
55	27	M	SI	mayor derecho	pulpejo
56	36	M	SI	mayor derecho	fractura f3
57			SI	anular derecho	con uña
58	47	M	SI	índice derecho	con uña
59	44	M	SI	índice izquierdo	fractura f3
60			NO	mayor izquierdo	fractura f3
61	48	F	NO	índice derecho	fractura f3
62	38	M	SI	anular derecho	pulpejo
63	40	M	NO	mayor izquierdo	pulpejo
64	41	M	SI	índice derecho	fractura f3
65	46	M	SI	anular derecho	fractura f3
66	37	M	SI	índice derecho	fractura f3
67	22	M	SI	mayor derecho	pulpejo
68	36	M	NO	menique derecho	pulpejo
69	40	M	NO	menique derecho	con uña
70	47	M	NO	anular derecho	fractura f3
71	36	M	SI	menique derecho	pulpejo
72	28	F	NO	menique izquierdo	fractura f3
73	47	F	SI	anular derecho	con uña
74	46	F	SI	anular derecho	pulpejo
75	51	M	NO	índice izquierdo	con uña
76	53	F	NO	índice derecho	con uña
77	37	F	NO	índice derecho	con uña
78	51	F	SI	menique derecho	fractura f3
79	29	F	NO	mayor derecho	fractura f3
80			NO	índice derecho	con uña

81	47	M	SI	mayor derecho	fractura f3
82	48	M	SI	índice derecho	fractura f3
83	44	M	SI	índice izquierdo	fractura f3
84	47	F	Si	anular derecho	fractura f3
85	28	M	NO	índice izquierdo	fractura f3
86	29	F	NO	anular derecho	pulpejo

Tabla 2

Caso	Días Al Alta	Reintervención	Eva	Sensibilidad*	Satisfacción
1	58	no	2	8 mm	SATISFECHO
2	62	no	2	4 mm	MUY SATISFECHO
3	70	no	2	12 mm	MUY SATISFECHO
4	78	si	2	6 mm	MUY SATISFECHO
5	62	no	1	5 mm	MUY SATISFECHO
6	52	no	2	5 mm	SATISFECHO
7	62	no	2	4 mm	SATISFECHO
8	64	no	0	8mm	SATISFECHO
9	45	no	0	5 mm	MUY SATISFECHO
10	73	si	3	8mm	SATISFECHO
11	72	no	2	8mm	MUY SATISFECHO
12	62	no	1	5 mm	SATISFECHO
13	61	no	1	4 mm	MUY SATISFECHO
14	54	no	1	4 mm	MUY SATISFECHO
15	76	no	2	6 mm	SATISFECHO
16	73	no	2	7 mm	MUY SATISFECHO
17		no	2	6 mm	
18	45	no	2	4 mm	MUY SATISFECHO
19	30	no	0	7mm	MUY SATISFECHO
20	30	no	0	4 mm	MUY SATISFECHO
21	45	no	0	6 mm	MUY SATISFECHO
22	30	no	1	4 mm	MUY SATISFECHO
23	64	no	2	5 mm	SATISFECHO
24	64	no	2	5 mm	MUY SATISFECHO
25	45	no	0	12 mm	MUY SATISFECHO
26		no	0	4 mm	
27	56	no	1	12mm	MUY SATISFECHO
28	82	no	2	8mm	MUY SATISFECHO
29	67	no	0	12mm	MUY SATISFECHO
30	63	no	1	10mm	MUY SATISFECHO
31	74	no	2	12mm	MUY SATISFECHO
32	82	no	2	12 mm	MUY SATISFECHO
33		si	3	10 mm	
34	56	no	1	8 mm	SATISFECHO

35	75	no	2	12 mm	SATISFECHO
36		si	3	10 mm	
37	30	no	0	12 mm	SATISFECHO
38	51	no	1	12 mm	MUY SATISFECHO
39	57	no	1	11 mm	MUY SATISFECHO
40	77	si	2	6 mm	SATISFECHO
41	40	no	0	4 mm	MUY SATISFECHO
42	40	no	0	6 mm	MUY SATISFECHO
43	38	no	0	4 mm	MUY SATISFECHO
44		no	0	6 mm	
45	40	no	0	6 mm	MUY SATISFECHO
46	35	no	0	6 mm	MUY SATISFECHO
47	35	no	0	4 mm	MUY SATISFECHO
48	35	no	0	4 mm	MUY SATISFECHO
49	40	no	0	4 mm	MUY SATISFECHO
50	35	no	0	4	
51	45	no	0	7 mm	MUY SATISFECHO
52		no	0	4 mm	
53	59	no	2	6 mm	MUY SATISFECHO
54	45	no	0	6 mm	MUY SATISFECHO
55	38	no	0	6 mm	MUY SATISFECHO
56	60	si	0	4 mm	MUY SATISFECHO
57		no	0	6 mm	
58	75	si	8	4 mm	MUY SATISFECHO
59	55	no	0	7 mm	MUY SATISFECHO
60		no	0	7 mm	
61	60	no	0	6 mm	MUY SATISFECHO
62	40	no	0	4 mm	MUY SATISFECHO
63	69	si	0	6 mm	MUY SATISFECHO
64	60	si	0	4 mm	MUY SATISFECHO
65	55	no	3	7 mm	SATISFECHO
66	55	no	0	7 mm	SATISFECHO
67	35	no	0	6 mm	MUY SATISFECHO
68	35	no	0	4 mm	MUY SATISFECHO
69	35	no	0	6 mm	MUY SATISFECHO
70	40	no	0	6mm	MUY SATISFECHO
71	35	no	0	6 mm	MUY SATISFECHO
72	45	no	0	4 mm	MUY SATISFECHO
73	35	no	0	4 mm	MUY SATISFECHO
74	30	no	0	4 mm	MUY SATISFECHO
75	38	no	0	4 mm	MUY SATISFECHO
76	39	no	2	6 mm	MUY SATISFECHO
77	36	no	2	4 mm	MUY SATISFECHO

78	40	no	0	4 mm	MUY SATISFECHO
79	40	no	0	4 mm	MUY SATISFECHO
80		no	0	4 mm	
81	40	no	0	6 mm	MUY SATISFECHO
82	40	no	0	6 mm	MUY SATISFECHO
83	38	no	0	6 mm	MUY SATISFECHO
84	40	no	0	7 mm	MUY SATISFECHO
85	40	no	0	6 mm	MUY SATISFECHO
86	30	no	0	4 mm	MUY SATISFECHO

EVA: escala visual análoga para determinar escala de dolor. *sensibilidad medida con test de monofilamento de diferenciación de dos puntos.

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Study of Biochemical Parameters among Hospital Admitted Dengue Patients from Day of Admission to Discharge: A Cross Sectional Study

Azmeri Alam, Tanha Waheed Brishti, Khadiza Begum, SK Abdul Fattah & Mohammad Moyenullah

ABSTRACT

Background: Dengue fever is an alarming viral public health issue in a large endemic population in the tropical and sub-tropical areas of the world. Recently it has been reported that about 50 million dengue infections occur annually and approximately 2.5 billion people live in dengue endemic countries. As epidemiological factors and presentations of dengue fever varies; hence, laboratory diagnosis and analysis is extremely essential.

Objective: This study aims to analyze the biochemical parameters in adult patients diagnosed with dengue at a tertiary care hospital on their day of admission and discharge.

Materials and Methods: A cross-sectional laboratory-based study was conducted in Green Life Hospital in Dhaka from June 2023 to December 2023. About 126 seropositive (Dengue NS1 Antigen and IgG and IgM Antibodies) patients were included in the study. After taking informed written consent, blood samples were collected from the subjects for biochemical tests that include serum albumin, AST, ALT, creatinine, urea and electrolyte profile. Data were cleaned, entered and analyzed by Statistical Package for the Social Sciences (SPSS) software version 26.0.

Keywords: biochemical parameters, dengue patients, serum albumin, serum ALT, creatinine, urea, electrolytes.

Classification: NLM Code: WC520, QU145, WN100

Language: English

Great Britain Journals Press

London Journal of Medical & Health Research

Volume 25 | Issue 3 | Compilation 1.0

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Results: Serum albumin, ALT, AST, creatinine, sodium level and urea were found to be elevated among dengue patients on day of admission and all became normal on day of discharge. This study also found that serum albumin was negatively correlated with serum ALT and creatinine on both admission and discharge days.

Conclusion: Since dengue does not have specific medical therapy, awareness of altered biochemical parameters will facilitate the clinician in prompt yet appropriate management leading to a good prognosis of the disease.

Keywords: biochemical parameters, dengue patients, serum albumin, serum ALT, creatinine, urea, electrolytes.

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I. INTRODUCTION

Globally the incidence of dengue is increasing dramatically in recent decades. Approximately, 100 to 400 million dengue virus infections are found each year, and the regions of Southeast Asia, the Western Pacific and the Americas are the places most affected.[1] It is expanding in almost 125 countries situated in tropical and subtropical regions of the world where climatic condition and rapid growth of population supports their expansion.[2,3] According to the data from the National Center for Vector Borne Disease Control, India reported 233,251 dengue cases and 303 deaths from dengue in 2022.[4] A report of Pakistan showed total dengue cases 48,906 with 183 deaths from January 01 to November 25, 2021 and total

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47,120 cases of dengue including 75 deaths in 2020.[5] Reports from different regions of the world suggest a changing pattern in the incidence of dengue infections and associated organ involvement which includes respiratory, cardiac, gastrointestinal, hepatic, renal and neurological systems.[6] Dengue causes major economic loss to not only the patient and their family but also to the government in terms of diagnosis, treatment, and vector control strategies.[7]

Dengue is one of the most important mosquito-borne viral infections caused by serotypes DENV-1-5 that are transmitted through the bite of female mosquitoes of genus Aedes, specially Aedes aegypti and Aedes albopictus species.[8] The diagnosis of dengue singly by clinical presentation often becomes quite challenging due to its nonspecific presentation, for this reason laboratory parameters in conjunction is essential for the early diagnosis, monitoring of disease progression, and appropriate treatment of these patients. Therefore, now a days dengue is usually diagnosed by both clinical features and laboratory data that mainly includes positive NS1 antigen with decreased platelet count. A variety of laboratory tests including serology, liver and renal function tests are used for monitoring progression of the disease condition.[9]

Laboratory parameters for dengue patients have widely been studied in the past.[10,11] however, this study stands out by being one of the studies, specific to an endemic population within Bangladesh. It aims to enlighten biochemical parameters to describe the most important alterations in confirmed cases of dengue in the specified population.

II. MATERIALS AND METHODS

This is a cross-sectional laboratory-based study at Green Life Hospital in Dhaka from June 2023 to December 2023. About 126 seropositive (Dengue NS1 Antigen and IgG and IgM Antibodies) patients were included in the study. The protocol, methodology, and analytical modalities employed in this study were approved by the Institutional Ethics Committee.

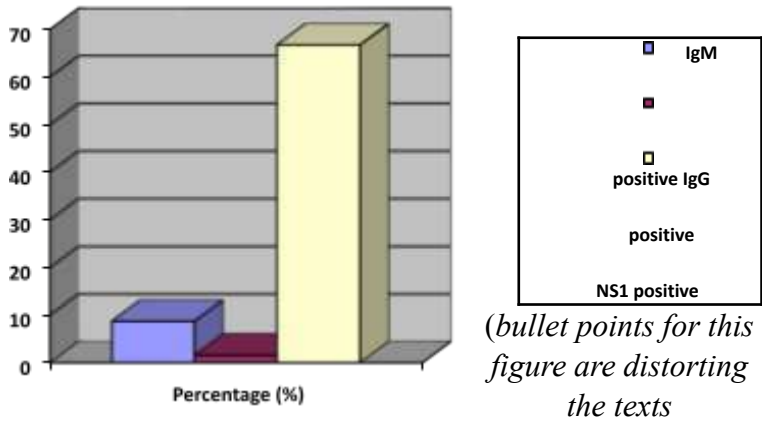
Patients that were excluded from the study were all seronegative patients for dengue (negative for IgM/ IgG antibody ELISA test and NS1 antigen test). All positive patients harboring comorbid or secondary active infections such as (diabetes mellitus, chronic kidney disease, hypertension, malaria, and typhoid fever) and cases of age <18 years due to variation in the normal range of hematological and biochemical parameters were included in the study.

After taking informed written consent, blood samples of patients suspected of dengue fever were collected with all aseptic precautions in a dipotassium ethylenediaminetetraacetic acid anticoagulant vacutainer. Biochemical tests (Aspertate transaminase [AST] and alanine transaminase [ALT], Albumin for liver function, serum creatinine and urea for renal function, electrolyte profile) were done using automated biochemistry analyzers (Architect plus C8000 and Siemens Dimension EXL 200).

Data were cleaned, entered and analyzed by Statistical Package for the Social Sciences (SPSS) software version 26.0. Continuous variables of normal distribution were expressed as mean±SD. Pearson correlation test was done for normal distribution of data to show the association between different biochemical markers among dengue patients. P value ≤0.05 was considered as statistically significant.

III. RESULTS

This was across sectional study. About 126 adult aged between 21 to 60 years febrile patients who were suspected to have dengue viral infection were selected from admitted patient of department of Medicine, Green Life Medical College and Hospital, Dhaka.



(*bullet points for this figure are distorting the texts*

Blue: IgM positive

Red: IgG positive

Yellow: NS1 positive)

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Fig 1: Frequency of Diagnostic Antibodies for Dengue Patients

Table I: Alteration of Ast, Alt and Serum Albumin of Dengue Patients During Admission and Discharge

Biochemical Parameters	Day of admission, mean (SD)	Day of Discharge, Mean (SD)	p-value
S. albumin (gm/dl)	29.159 (4.13)	33.571 (4.64)	0.002
S. ALT (U/L)	167.960 (351.34)	145.651 (355.74)	0.000
S. AST (U/L)	153.881 (476.88)	134.698 (411.47)	0.28

Table II: Alteration of Serum Creatinine and Serum Albumin of Dengue Patients During Admission and Discharge

Biochemical Parameters	Day of admission, mean (SD)	Day of Discharge, Mean (SD)	p-value
S. creatinine (mg/dl)	1.294 (0.66)	1.062 (0.51)	0.001
Blood urea (mg/dl)	67.767 (58.75)	59.330 (46.41)	0.000

Table III: Alteration of Serum Electrolytes of Dengue Patients During Admission and Discharge

Biochemical Parameters	Day of admission, mean (SD)	Day of discharge, Mean (SD)	p-value
S. Na (mmol/L)	136.29 (4.87)	138.23 (3.46)	0.001
S. K (mmol/L)	4.01 (0.58)	4.03 (0.49)	0.06
S. Cl (mmol/L)	100.19 (4.86)	99.76 (4.12)	0.07
S. HCO_3 (mmol/L)	57.27(276.27)	56.53 (265.59)	0.55

Table IV: Association of Serum Creatinine and Urea with Serum Albumin, Alt And Ast among Dengue Patients During Admission

Parameters		Correlation coefficient	p value
Creatinine	urea	0.443	0.000
	albumin	-0.323	0.000

	ALT	0.116	0.197
	AST	0.029	0.749
Albumin	urea	-0.100	0.264
	ALT	-0.176	0.05
	AST	-0.034	0.702
Urea	ALT	-0.028	0.755
	AST	-0.021	0.812
ALT	AST	0.778	0.000

Table V: Association of Serum Creatinine and Urea with Serum Albumin, Alt And Ast among Dengue Patients During Discharge

Parameters		Correlation Coefficient	p value
Creatinine	urea	0.512	0.000
	albumin	-0.236	0.008
	ALT	0.127	0.156
	AST	0.123	0.356
Albumin	urea	-0.112	0.213
	ALT	-0.179	0.05
	AST	-0.234	0.402
Urea	ALT	-0.024	0.709
	AST	-0.086	0.512
ALT	AST	0.398	0.000

IV. DISCUSSION

In this study, about 126 adult febrile patients who were suspected to have dengue viral infection were selected from admitted patient of department of Medicine, Green Life Medical College and Hospital, Dhaka. Among them 70% patients were confirmed by positive NS1 antigen as it is detectable during very early stages of dengue infection, usually from first day to nineth day after onset of fever.[12,13] It is also responsible for the pathogenesis of the disease and hence usually used primarily for routine check up of patients suspected of dengue fever.[14] Saeed et al found similar finding in his study.[15]

Our study showed that on admission day serum albumin level was found low. This was found due to plasma leakage and leaking albumin out into the surrounding tissue. Ayyadevara and Nikhat observed decreased albumin level in dengue patients.[16] On day of discharge, the level of albumin was found to be normal. This is may be due to reversal of inflammatory response caused by dengue virus which triggered the plasma leakage. We found increased level of ALT and AST among dengue patients on day of admission. The reason behind it may be due to hepatic damage caused by dengue virus. Ferede et al. found elevation of AST and ALT in dengue cases.[17] On day of discharge ALT and AST level became normal. It is may be due to correction of inflammatory response of dengue virus which caused release of ALT and AST into blood.

Our study showed on day of admission serum creatinine and blood urea level were increased in dengue patients. Due to dengue virus mediated inflammatory response, renal tissues are damaged for which kidney fails to filter effectively the waste products of blood. As a result serum creatinine and blood urea were found to be raised on the day of admission. This statement is supported by a study carried out by Lim et al.[18] We found the level of serum creatinine and urea level became normal which was may be due to correction and management of inflammatory response caused by dengue virus.

This study showed significant low level of sodium in dengue patients on day of admission which may be due to plasma leakage caused by dengue virus. This finding is supported by a study carried out by Mekmullica et al. and Lumpaopong et al.[19,20] On day of discharge, sodium level became normal due to correction of dengue virus induced inflammatory response.

Our study have found that on day of admission there was a significant negative correlation of serum albumin with serum ALT. This finding was caused by dengue virus induced liver infection that leads to decreased albumin production and release of ALT into blood. A significant negative correlation was also found between serum albumin and serum creatinine on admission day. This was may be due to both hepatic and renal tissue inflammation by dengue virus. Serum ALT and AST was found to have positive correlation on day of admission due to hepatic inflammation by dengue virus. On day of discharge, all alterations were found to be corrected due to reversal of inflammatory response caused by dengue virus.

V. CONCLUSION

Dengue fever is the most common presentation of dengue. It affects the biochemical parameters significantly and can be used to monitor the progress during the management of cases. Since dengue does not have specific medical therapy, awareness of altered laboratory findings such as hematological and biochemical parameters will facilitate the clinician in prompt yet appropriate management leading to a good prognosis of the disease. Screening and monitoring of these parameters will help in identifying the progression of the diseases into fatal forms thereby alerting the clinician and aiding relevant therapy.

Ethical considerations

Institution ethics committee permission was obtained. Informed consent was obtained from all eligible cases of dengue.

Financial support and sponsorship

Nil

Conflicts of interest

There are no conflicts of interest.

Abbreviations:

DF	Dengue fever
ALT	Alanine aminotransaminase
AST	Aspertate aminitransaminase

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Primary Pulmonary Resection in Madagascar: Indication and Results

Mosa F. Ramifehiarivo M, Lovasoa Mampiadana M, Razafimanjato NNM, Rakotoarisoa AJC, Rajaonera TA, Rakoto Ratsimba HN & Rakotovao HJ

ABSTRACT

Introduction: Primary pulmonary resection is defined as the surgical ablating or endoscopic of an entire lobe called lobectomy or an entire lung called pneumonectomy. Our objective is to describe the indication for a primary pulmonary resection and to research the morbidity and mortality factors of primary pulmonary resection at the Joseph Ravoahangy Andrianavalona Antananarivo University Hospital.

Method: This is a retrospective descriptive and analytical study of 216 patients hospitalized in the thoracic surgery department at the Joseph Ravoahangy Andrianavalona Antananarivo University Hospital (CHU-JRA), from January 1, 2015, to December 31, 2023, who underwent primary pulmonary resection.

Keywords: aspergillome, empyema, lobectomy; pneumonectomy; surgery; tuberculosis.

Classification: NLM Code: WF 600

Language: English

Great Britain Journals Press

London Journal of Medical & Health Research

Volume 25 | Issue 3 | Compilation 1.0

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Results: We collected 216 patients with a male predominance (73,6%) and a median age of 33. Post-tuberculosis pulmonary destruction is the main indication for resection in 53,24% cases, followed by a cavernous lesion of pulmonary aspergillosis in 24,07% cases then tumor mass in 18,06% and the nodular lesion in 4,63% cases.

We realized a lobectomy in 71,29% of cases and a pneumonectomy in 28,71%. The complications found are dominated by pneumothorax, prolonged bubbling, pleural empyema, bronchopleural fistula, bleeding, recurrent paralysis, septic shock and cardiac rhythm disorder. The mortality rate is 8,33% cases. severe factors were found notably: undernutrition with IMC ≤ 18 kg/m² (RR= 5[2,1-11,7]), hemorrhagic shock (RR=9,3 [3,7-13,3]), septic shock (RR=13,3 [4,6-28,4]), cardiogenic shock (RR=8,5[3,7-12,3]), pleural empyema (RR=8,5 [3,8 -13,6], bronchopleural fistula (RR=6,7[2,9-15,3]).

Conclusion: Post-tuberculous pulmonary destruction is the main indication for primary pulmonary resection in Madagascar, the complications are numerous and severe, profound factors have been involved leading to a relatively high mortality rate.

Keywords: aspergillome, empyema, lobectomy, pneumonectomy, surgery, tuberculosis.

I. INTRODUCTION

Primary pulmonary resection is defined as the surgical ablating or endoscopic of an entire lobe called lobectomy or an entire lung called pneumonectomy. It is called minor when it is ablating an anatomical or atypical segment [1]. Pulmonary resection surgery contributes to the management of pathology, notably tumours and infection [2]. Our objective is to describe the indication for significant pulmonary resection and to research the morbidity and mortality factors of primary pulmonary resection at the Joseph Ravoahangy Andrianavalona Antananarivo University Hospital (CHU-JRA).

II. PATIENTS AND METHOD

This is a retrospective descriptive and analytical study of 216 patients hospitalized in the thoracic surgery department at CHU-JRA, from January 1, 2015, to December 31, 2023, who underwent significant pulmonary resection. We included in this study, all patients hospitalized in the thoracic surgery département for primary pulmonary resection during this period, we excluded all patients who underwent unsettled surgery (atypical resection, segmentectomy and nodulectomy).

London Journal of Medical & Health Research

III. RESULTS

We had collected 216 patients with a male predominance of 159 men or 73,6% for 57 women or 26,4%. The sex ratio was 2,8 in favour of men. The median age was 33 years, of which the most represented age group was between 20 and 40 years representing 58,33% (figure 1). Under-nutrition with body mass index ≤ 18kg/m² was found in 16,67% cases (table I). Obstructive syndrome accounted for 8,8% of cases (table II). Post-tuberculosis lung destruction is the main indication for resection in 53,24% cases, followed by a cavernous lesion of pulmonary aspergillosis in 24,07% cases then the tumor mass in 18,06% and the nodular lesion in 4,63% cases (table III). We realized a lobectomy in 71,29% cases and a pneumonectomy in 28,71% cases (Table IV).

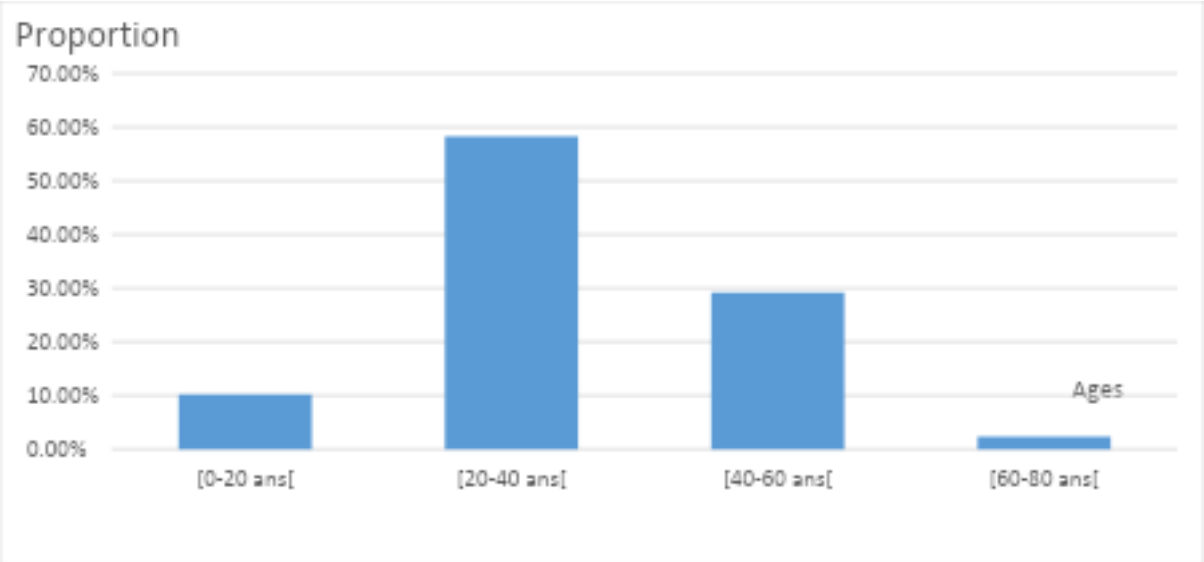

Figure 1: Distribution of Patients According to Age Group

Table I: Distribution of Patients According to Body Mass Index

Body mass index	Effective (N=216)	Percentage (%)
<18	36	16,67
18-25	177	81,94
25	03	1,39

Table II: Distribution of Patients According to Results EFR

VEMS	Effective (N=216)	Percentage (%)
Superior 1,5L	197	91,20
Lower 1,5 L	19	8,80

Table III: Distribution of Patients According to Surgical Indication

Surgical indication	Effective (N=216)	Percentage (%)
Sequelae pulmonary destruction	115	53,24
Cavernous lesion	52	24,07
Tumor mass	39	18,06
Nodular lesion	10	04,63

Table IV: Distribution of Patients According to the Type of Surgical Intervention

Type of surgical intervention	Effective (N=216)	Percentage (%)
Lobectomy	154	71,29
Pneumectomy	62	28,71

We found intraoperative complication in 53,7% cases, of which septic shock in 32,87% cases and hemorrhagic shock in 17,59% cases (Table V). Post operative medical complication were represented by pneumonia in 23,14% de case and heart rhythm disorder in 3,7 % cases (Table VI). Pneumothorax and parietal infection are frequent post-operative complication. Bronchopleural fistulas and pleural empyema represented respectively 6,9% et 5,56% cases (Table VII).

Table V: Distribution of Patients According to Post Operative Complication

Intraopérative complication	Effective (N=216)	Percentage (%)
Hemorrhagic shock	38	17,59
Septic shock	45	32,87
Cardiogneic shock	07	3,24
No complication	100	46,29

Table VI: Distribution of Patients According to Post Operative Medical Complication

Post-operative complication		Effective (n)	Percentage (%)	
Pulmonary	Pneumonia	50	23,14	
	SDRA	31	14,35	
	Bronchospasm	12	5,56	
	Acute lung edema	5	2,31	
	Atelectasis	10	4,62	
	Pulmonary embolism	05	2,31	
Cardio-vascular	Stroke	2	0,92	
	Heart rhythm disorder	08	3,70	
	Acute coronary syndrom	03	1,39	

Table VII: Distribution of Patients According to Post Operative Surgical Complication

Surgical Complication	Effective (N=124)	Percentage (%)
Pleural empyema	12	5,56
Pneumothorax	35	16,20
Post operative bleeding	18	8,33
Recurrent paralysis	5	2,31
Prolonged bubbling	17	7,88
Parietal infection	22	10,19
Bronchopleural fistula	15	6,94

We analyzed several factors; we showed that undernutrition ≤ 18kg/m² increases the mortality risk with a relative risk of 5 (Table VIII). The intraoperative complication, particularly septic shock and hemorrhagic shock, increases the risk of morbidity and mortality (tableau IX). The post-operative pleural empyema increases the risk of mortality to 8,5 times and bronchopleural fistula increases the mortality risk to 6,5 times compared to patients who have undergone major pulmonary resection without post-operative complication here (Table X et XI).

Table VIII: Correlation Between Body Mass Index and Post Operative Surgical Complication

Body mass index	Deceased n (%)	Alive n (%)	RR [IC à 95%]
BMI ≤ 18 Kg/m2 Oui Non	9(25) 9(5)	27(75) 171(95)	5 [2,1-11,7]

Tableau IX: Correlation between Patients with Intraoperative Complication and Risk of Death

Intraoperative complication	Deceased n (%)	Alive n (%)	RR [IC à 95%]	p-value
Hemorrhagic shock Yes No	12(31,6) 6 (3,4)	26(68,4) 172(96,6)	9,3 [3,7-13,3]	0,7.10-6 S
Septic shock Yes No	14(31,1) 4 (2,3)	31(68,9) 167(97,7)	13,3 [4,6-18,5]	0,4.10-7 S
Cardiogenic shock Oui Non	4(57,1) 14(6,7)	3(42,9) 195(93,3)	8,5 [3,7-12,3]	0,5.10-3 S

S: significant

Tableau X: Correlation between Patients with Surgical Complication and Risk of Death

Post-operative complication	Deceased n (%)	Alive n (%)	RR [IC à 95%]	p-value
Pneumothorax Oui Non	8(8,6) 15(8,3)	32(91,4) 166(91,7)	1,3	0,4 NS
Empyème pleural Oui Non	6(50) 12(5,9)	6(50) 192(94,4)	8,5 [3,8-13,6]	0,5.10-4 S
Bullage prolongé Oui Non	2(11,8) 16(8)	15(88,2) 183(92)	1,2	0,2 NS

S: significant

NS: Non significant

Table XI: Correlation between Patients with Surgical Complication and Risk of Death

Post-operative Complication	Deceased n (%)	Alive n (%)	RR [IC à 95%]	p-value
Broncho-pleural fistula				
yes	6(40)	9(60)	6,7 [2,9-15,3]	0,2.10-4
No	12(6)	189(94)		S
Recurrent paralisis				
Oui	0(0)	5(100)	0	0,3
Non	18(8,5)	193(91,5)		NS

S: Significant
NS: Non significant

IV. DISCUSSION

In our study, we collected 216 patients, the median age is 33 years, our study is similar to the survey carried out by Bazongo et al. In sub-Saharan Africa and Morrocco represented respectively 35,5 years et de 36 years [3,4]. Our population is young compared to the survey in Europe, with your median age is 63 years [5] and 59 years in the United States [5]. This difference is due to a different indication of a primary pulmonary resection in developing countries, compared to developed countries whose main indication is bronchopulmonary cancer [5]. The literature said that primary pulmonary resection affects both sexes in a variable manner, we noted a male predominance representing 73,6% cases with a sex ratio of 2,8. Our survey was relayed by Bouchikh et al. [4]. This difference is due to a high prevalence of pulmonary aspergillosis and pulmonary tuberculosis in men compared to women [6].

In our study, post-tuberculous pulmonary destruction is the main indication for primary pulmonary resection, represented 53,24% cases, which was identical to the survey carried out by Bazongo et al. In sub-Saharan Africa and Tanauh Y et al. In Ivory coast [3,7]. This resection can be deferred or urgently during septic shock due to encysted pyopneumothorax or associated parenchymal necrosis or severe hemoptysis [8]. In regions with a high tuberculosis endemic, pneumonectomy is a reference for posttuberculosis pulmonary destruction [1-3].

Our survey is different from that reported by Lele E et al. where the indication for pneumonectomy is due to damage to the hilar pedicle of mass which encompasses the pulmonary hilum [5].

Pulmonary aspergillosis is the second cause of primary pulmonary resection in our country. The literature said, surgical treatment is the reference treatment for pulmonary aspergillosis [5], it must be systematically offered even in asymptomatic people apart from operative contraindication, since surgery offers three advantages, it allows the symptoms to be controlled, prevents the recurrence of hemoptysis and increase patient survival [9]. This surgical intervention consists of resecting the nose and the residual cavity, this type of resection carries a hemorrhagic risk due to the density of the richly vascularized pleural adhesion and the richness of neovascularization, this resection can be carried out either a lobectomy or a pneumonectomy [10]. Finally, pulmonary resection for bronchopulmonary cancer was low in our study, represented 18,06% case, similar to the survey carried out by Bazongo et al. In sub-Saharan Africa represented 11,8% cases, unlike the studies carried out by Lele E et al. In Europe, for which bronchopulmonary cancer is the main indication represented 63% cases [5], this difference is due to heavy smoking in developed countries mainly in Europe, and also linked to the delay in diagnosis of cancer in the country in development pathway where the cancerous is found at the metastatic disease stage in the majority of cases and becomes inaccessible to surgery.

In our study, conventional thoracotomy constitutes the most used approach, we realized a lobectomy in 71,29% cases and a pneumonectomy in 28,71% cases, identical with the survey reported in the literature [11]. Shiraishi Y et al. said, totalization pneumonectomy is not exceptional, it is a last resort procedure, whose indications are limited essentially to hemostasis procedures in emergency and lesions extended over several lobes [12]. In our context, it is indicated that lobectomy was feasible in complex firms because it is burdened with significant mortality and morbidity, particularly decompensation of respiratory insufficiency and infection of the pneumonectomy cavity [12].

The literature said, the incidence of post-operative complications was of the order of 30% following lung resection procedures, the non-fatal complication of which is mainly represented by arrhythmia (5—25 %), atelectasis (3—10 %), pneumonia (3—6 %), bronchospasms (1—5 %), acute respiratory distress syndrome (1 à 5 %) and bronchopleural fistula (1—3 %) [5]. Post-operative complication after primary pulmonary resection is frequent. The complications encountered in our study represented 17,59%. The intraoperative complication by septic shock and hemorrhagic shock represented respectively 32,87% and 17,59%. It is a high incidence in comparison to the survey carried out by Hidetaka et al. in Japan which found bleeding as a post operative complication in 1,3% cases. This difference is explained by comorbidities predisposing to bleeding from pulmonary aspergillosis. Infectious complication generally represents 31% of the post-operative complication [14]. Pleural empyema during our study represented 5,56% carried out by Fernandes et al. (8,9 %) [14]. Simeone et al. found a higher frequency of 11% in patients undergoing chemotherapy and radiotherapy [15]. Wall infections accounted for 3,40 %. Sok. M et al. in Slovenia found 1% [16]. This difference is explained by the infectious indications for pulmonary resection in our series.

Pulmonary resection remains burdened by significant operative morbidity and mortality despite substantial progress in preoperative development, anesthesia, surgical technic and post-operative care [5]. This morbidity depends mainly on the extent of pulmonary resection, the need for resection of the carina, the age and pre-existing comorbidities of the patient. In our study, severe factors were involved in the high morbidity and mortality of a primary pulmonary resection, notably undernutrition ≤ 18 kg/m², septic and hemorrhagic shock and post-operative complication such as pleural empyema, bronchopleural fistula. Undernutrition increases the mortality risk five times compared to a patient who underwent pulmonary resection and whose nutritional status was normal. Our result is identical to that reported by Vita O et al. [17]. This undernutrition promotes poor healing and increases the risk of a parenchymal or bronchial suture coming loose, causing a bronchopleural fistula. It Also causes respiratory muscle weakness postoperatively, which reduceronchial evacuation causing bronchial congestion.

In our study, the state of septic shock in intraoperative remains high. It represented 32,87% of cases, it increases the risk of mortality by 13,3 with IC 95% [4,6-28,4] p=0,4.10-7 compared to patients without septic shock in intraoperative, Our study is different from that reported by Fernandes E O et al. [14] and survey by Lebedeva R N et al. who found an incidence respectively 5,68 % et 0,2% [18]. This marked difference is explained by the precocity of antibiotic prophylaxis adapted in developed countries, and our patients were already infected before the intervention like the cases of patients presenting aspergillary infections.

In our study, pleural empyema is a primary morbidity and mortality factor, because it increases the mortality risk by 8,5% of cases, which is identical to the survey carried out by Bazongo et al. [3]. Pleural empyema is favored by the late discovery of this infection, or due to poor postoperative analgesic management leading to bronchial congestion or a failure of pulmonary re-expansion. Finally bronchopleural fistula increases the mortality risk by 6,7 times in our study. It is favored by undernutrition; it is a most formidable complication because the pneumonectomy cavity remains a residual space

of large volume without the possibility of filling. This fistula increases mortality 50%.

The literature said, supraventricular cardiac arrhythmias with a predominance of atrial fibrillation are extremely common in thoracic surgery (20 à 25%) [20]. Surgery adds its risk factors: hypoxia, pericardial irritation, especially if pericardial approach or pericardial resection, intra and preoperative filling as well, as trauma to the sympathetic nervous system the pulmonary procedure but also lymph node dissection [19].

V. CONCLUSIONS

Primary pulmonary resection is a standard surgical procedure in thoracic surgery. The main indication is dominated by post-tuberculous parenchymal destruction, followed by pulmonary aspergillosis in developing countries like Madagascar. Severe factors have been implicated in the high mortality rate including undernutrition, septic shock, hemorrhage shock, pleural empyema and bronchopleural fistula.

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Atrial Flutter with 1:1 Atrioventricular Conduction

Dr. Roberto Lavadenz Morales

SUMMARY

Introduction: Generally, atrial flutter leads 2:1 to the ventricles. It rarely leads 1:1, with states of cardiogenic shock. Due to the very fast ventricular rate.

Objetives: To present patients with atrial flutter, with 1:1 atrioventricular conduction. Explain diagnostic methods. Review production mechanisms. Define the causes of presentation in exposed. Patients. Mention the behavior and treatment.

Methods: The following were taken in to account: Electrocardiogram with heart rate greater tan 250. Identification of atrial flutter waves. Determination of 1:1 atrioventicular conduction. Typing of heart disease. Evaluation of hemodynamic status. Age and sex. Then we proceded to treatment and behavior.

Results: Ten patients were observed. Average age 57 (22-72). Ischemic heart disease 4; chronic rheumatic 2; chronic cor pulmonale 2; dilated cardiomyopathy 1 and pre-excitation syndrome 1. Average atrial rate 257 (240-270). Hemodynamic instablity 6. Treatment: electrical cardioversión 5; Amiodarone 2; Digoxin 1; descontinuation of Digoxin 1 and spontaneous 1. Vagal maneuver was performed in 5. Digoxin precipitated the arrhythmia in 1, in the rest it was triggered spontaneously.

Keywords: arrhythmia, atrial flutter, vagal maneuvers, electrical cardioversión.

Classification: NLM Code: WG 140

Language: English

Great Britain Journals Press

London Journal of Medical & Health Research

Volume 25 | Issue 3 | Compilation 1.0

Atrial Flutter with 1:1 Atrioventricular Conduction

Aleteo Auricular Con Conduccion Auriculoventricular 1:1

Dr. Roberto Lavadenz Morales

RESUMEN

Introducción: Generalmente, el Aleteo auricular, conduce 2:1 hacia los ventrículos. Raras veces conduce 1:1, con estados de choque cardiogénico, debido a la muy rápida frecuencia ventricular.

Objetivos: Presentar pacientes con aleteo auricular con conducción auriculoventricular 1:1. Exponer los métodos de diagnóstico. Revisar los mecanismos de producción. Definir las causas de la presentación en los pacientes expuestos. Mencionar la conducta y Tratamiento.

Métodos: Se tomo en cuenta: Electrocardiograma con frecuencia cardíaca mayor a 250. Identificación de las ondas de aleteo auricular. Determinación de la conducción auriculoventricular 1:1. Tipificación de la cardiopatía. Evaluación del estado hemodinámico. Edad y Sexo. Se procedió al tratamiento y conducta.

Resultados: Se observó 10 pacientes. 9 varones, edad media 57 (22-78). Cardiopatías: Isquémicos 4; reumáticos crónicos 2; cor pulmonale crónico 2; cardiomiopatía dilatada 1 y síndrome de preexcitación 1. Frecuencia auricular media 257 (240-270). Inestabilidad hemodinámica 6. Tratamiento: cardioversión eléctrica 5; Amiodarona 2; Digoxina 1; descontinuación de Digoxina 1. Espontanea 1.

Se practicó maniobra vagal en 5, La digoxina precipitó la arritmia en 1, en el resto se desencadenó espontáneamente.

Conclusión: La mayoría de los casos, tenía una cardiopatía. La arritmia, puede confundirse con la taquicardia ventricular y la taquicardia paroxística supraventricular. Las maniobras vagales ayudan en el diagnóstico. Según el estado de estabilidad hemodinámica, se tratará con antiarrítmicos o con cardioversión eléctrica.

Palabras Clave: Arritmia, Aleteo auricular, Maniobras vagales, Cardioversión eléctrica.

SUMMARY

Introduction: Generally, atrial flutter leads 2:1 to the ventricles. It rarely leads 1:1, with states of cardiogenic shock. Due to the very fast ventricular rate.

Objetives: To present patients with atrial flutter, with 1:1 atrioventricular conduction. Explain diagnostic methods. Review production mechanisms. Define the causes of presentation in exposed. Patients. Mention the behavior and treatment.

Methods: The following were taken in to account: Electrocardiogram with heart rate greater tan 250. Identification of atrial flutter waves. Determination of 1:1 atrioventicular conduction. Typing of heart disease. Evaluation of hemodynamic status. Age and sex. Then we proceded to treatment and behavior.

Results: Ten patients were observed. Average age 57 (22-72). Ischemic heart disease 4; chronic rheumatic 2; chronic cor pulmonale 2; dilated cardiomyopathy 1 and pre-excitation syndrome 1. Average atrial rate 257 (240-270). Hemodynamic instablity 6. Treatment: electrical cardioversión 5; Amiodarone 2; Digoxin 1; descontinuation of Digoxin 1 and spontaneous 1. Vagal maneuver was performed in 5. Digoxin precipitated the arrhythmia in 1, in the rest it was triggered spontaneously.

Conclusion: The mayority of cases had heart disease. The arrhythmia can be confused with ventricular tachycardia and paroxismal supraventricular tachycardia. Vagal maneuvers help in the diagnosis. Depending on the state of

hemodynamic stability, it card be treated with antiarrhythmics or electrical cardioversión.

Keywords: arrhythmia, atrial flutter, vagal maneuvers, electrical cardioversión.

I. INTRODUCCIÓN

El Aleteo auricular (ALA), es una arritmia cuya característica es la contracción rápida de las aurículas a una frecuencia entre 220 y 370 por minuto y cuya causa es un movimiento circular en las aurículas (1).

La frecuencia de esta arritmia es variable según las series efectuadas a nivel hospitalario o a nivel general de la población. Así, en Estados Unidos se ha determinado que la incidencia es 88/100000 personas por año y que se presentan 200000 nuevos casos anualmente (2). En las series hospitalarias, en España es de 1,5 por mil (3), en México es del 3,8 por mil (4). En el Hospital No 1 de la Caja Nacional de Salud de La Paz Bolivia es alta, llegando a 6 por mil en un informe (5) y al 9 por mil, en otro reporte (6).

En esta arritmia, la frecuencia auricular es muy rápida, generalmente 300 por minuto; todos estos impulsos llegan al nodo auriculoventricular, pero solo uno de dos pasará a los ventrículos, produciéndose así una conducción A.V, 2:1; por lo que la respuesta ventricular es regular y con una frecuencia de 150 por minuto. (7).

Raras veces, existe una conducción de todas las contracciones auriculares a los ventrículos, entonces se presenta un ritmo ventricular muy rápido con una frecuencia de 240 a 300 por minuto. Esto es más probable, cuándo la frecuencia auricular esta por debajo de 300 por minuto, puesto que el nodo auriculoventricular, no puede conducir tan rápidamente, que permita una frecuencia ventricular superior a 270 por minuto. Si todas las ondas auriculares pasan a los ventrículos, entonces la conducción A-V, será 1:1. (8)

En esas condiciones, puede presentarse inestabilidad hemodinámica, con estados de choque cardiogénico, por la mucha rapidez de la frecuencia ventricular (9).

Por lo cual, en este trabajo observacional, los objetivos son: Presentar pacientes que presentaron ALA con conducción A-V 1:1. Exponer los medios empleados para su diagnóstico. Revisar los mecanismos por los cuales se produce esta forma de conducción.

Tratar de definir los motivos por los cuales se produjo esta arritmia en los pacientes presentados. Informar sobre la conducta y tratamiento, que se siguió en esos casos.

II. METODOS

Durante la práctica hospitalaria, se observó a 10 pacientes en los cuales se presentó la arritmia en cuestión; tomando en cuenta los siguientes datos: Electrocardiograma con frecuencia ventricular mayor a 250 por minuto, ya sea con el QRS ancho o angosto.

Se identificó la presencia de aleteo auricular, con los siguientes parámetros (10): frecuencia auricular entre 220 y 370, ondas auriculares exactamente regulares e iguales entre sí, tanto en forma, amplitud y duración, sin línea isoeléctrica (ondas semejando “dientes de sierra”). Ondas F. Se cuantificó la frecuencia auricular del ALA Cuando no se podía definir exactamente las ondas F, se procedió a efectuar maniobras vagales, que enlentecieron la frecuencia ventricular y posibilitó ver claramente dichas ondas (11). Se valoró el estado hemodinámico del paciente, para efectuar tratamiento de urgencia. La cardiopatía del paciente fue determinada así como la edad y el sexo.

También se indagó si el paciente recibía alguna medicación cardioactíva. Finalmente se procedió al tratamiento correspondiente.

III. RESULTADOS

En la Tabla No. 1, pueden verse los datos generales de los 10 pacientes.

Tabla No. 1: Datos De 10 Pacientes Con Aleteo Auricular Y Conducción A-V 1:1

Caso.	Edad	Sexo	Cardiopatía	Estabilidad Frecuencia hemodinámica	Tratamiento Auricular
1	61	M	Cor pulmonale Cr.	Inestable	Cardioversión
2	57	M	Cardiomiopatia	Estable	Amiodarona IV
3	67	M	Isquémica	Inestable	Espontaneo
4	40	F	Reumática Cr.	Estable	Digoxina
5	35	M	Reumática Cr.	Inestable	Cardioversión
6	70	M	Isquémica	Estable	Amiodarona IV
7	70	M	Isquémica	Inestable	Cardioversión
8	78	M	Cor pulmonale Cr.	Estable	Dc. Digoxina
9	79	M	Sind. Preexcitación	Inestable	Cardioversión
10	68	M	squémica	Inestable	Cardioversión 10 68 Isquémica Inestable 250 Cardioversió

M.- Masculino. F.- Femenino. Cr.- Crónico. Sind. - Sindrome. IV.- Intravenosa. Dc.- Descontinuar

La edad media fue 56. Hubo 9 varones. Cor pulmonale cónico, tuvieron 2 pacientes; Cardiopatía isquémica 4; Cardiopatía reumática crónica 2; Cardiomiopatía dilatada 1 y Síndrome de preexcitación 1. Inestabilidad hemodinámica presentaron 6 pacientes (60%) y 4 estuvieron estables. La frecuencia auricular media fue 257. Se hizo cardioversión eléctrica en 5 pacientes con inestabilidad hemodinámica, obteniéndose reversión a ritmo sinusal, en otro también inestable, disminuyó la frecuencia cardíaca en forma espontanea y la conducción A-V pasó a 2:1 cuándo se preparaba para cardioversión. En dos pacientes estables se usó Amiodarona intravenosa con reversión a ritmo sinusal. En una paciente con cardiopatía reumática crónica, estable se controló la frecuencia cardíaca con Digoxina. En otro paciente con cor pulmonale crónico, la digoxina desencadenó la arritmia, en el cual se descontinuó el medicamento y pasó a ritmo sinusal.

El diagnóstico se estableció por maniobras vagales en 5 pacientes, lo cual permitió ver las ondas de aleteo auricular; en los otros cinco, el diagnóstico se consiguió por el análisis de la frecuencia cardíaca y por visualización de las ondas de la arritmia auricular.

En las siguientes figuras puede verse lo acontecido en algunos pacientes.

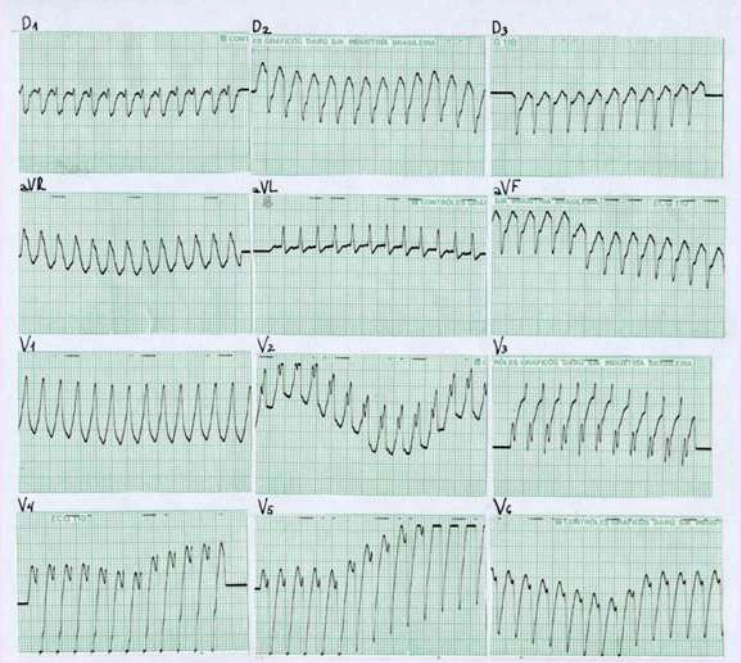

Figura No 1: Taquicardia con FC de 270 y QRS ancho. En V1 el complejo QRS es monofásico, con onda positiva; en V6 el complejo QRS tiene una morfología rS; en V2 se ve un polifasismo, en V3 al final de la onda S, existe una onda amplia positiva y negativa, que tiene la misma frecuencia que el QRS. Como el paciente estaba inestable, se procedió a la cardioversión eléctrica.

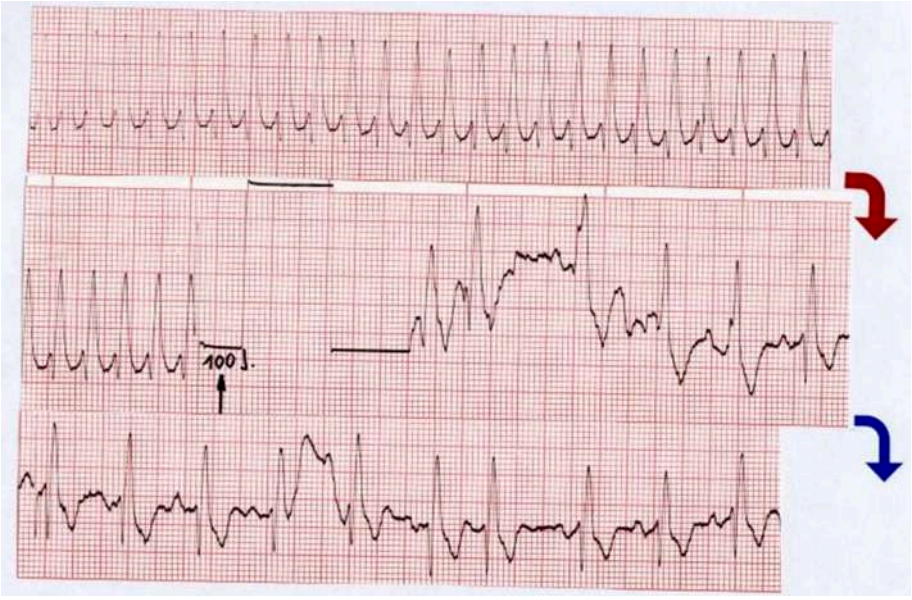

Figura No. 2: Mismo paciente de la figura No. 1. Trazos continuos: Trazo superior, la arritmia de inicio con una frecuencia de 270. Trazo del medio, Choque eléctrico con 100 J. que consigue revertir a ritmo sinusal, con QRS polifásico y con una duración de 0,12 " de Segundo y FC de 110. Trazo inferior. Ritmo sinusal con imagen de bloqueo de rama

Figura No. 3: Paciente de 40 años con cardiopatía reumática crónica. Trazo A.- taquicardia con FC de 270., al final del QRS, se ve una onda negativa, con frecuencia igual al QRS. Trazo del medio. – se efectúa una maniobra vagal, que disminuye la frecuencia ventricular a 110, viéndose las ondas de aleteo auricular marcadas por la letra F. Trazo final. – continúa el efecto de la maniobra vagal, al finalizar la misma retorna la frecuencia de 270.

IV. DISCUSION

En 10 pacientes, se presentó un ALA con conducción A-V 1:1. En los mismos, solo en un paciente, la digoxina fue el medicamento desencadenante de la arritmia; en los otros nueve pacientes, el ALA, se desencadenó espontán-eamente, probablemente por la severidad de las cardiopatías subyacentes.

Esta arritmia no es muy frecuente, pues en 47 casos de ALA, se encontró dos con conducción A-V 1:1 (4%) (5). Kawabata y cols en 109 pacientes, encontraron 8 (7%) (12).

Cuando esta arritmia se presenta, plantea dificultades de diagnóstico y de tratamiento, porque se confunde con la taquicardia paroxística supraventricular y con la taquicardia ventricular; de la primera se diferencia por la frecuencia ventricular y por la visualización de las ondas de ALA, que son características y tienen una frecuencia igual a la de los ventrículos; de la taquicardia ventricular, se diferencia por ausencia de disociación A-V y por otros parámetros propios de la taquicardia ventricular, que se exponen en los distintos algoritmos para el diagnóstico (13), la confusión existe porque la onda de ALA deforma y ensancha el QRS, haciendo que se piense en una taquicardia ventricular, pero la frecuencia ventricular que es muy rápida (mayor a 250 por minuto), descarta la arritmia ventricular. De cualquier manera, son las maniobras vagales, al disminuir la frecuencia ventricular, las que consiguen que se vean las ondas de ALA (14).

Los mecanismos de producción de la arritmia en cuestión, son muchos y algunos no bien demostrados. Uno de ellos, es que aumenta la conducción en el nodo A-V (15); otro es el que menciona que el periodo refractario del nodo A-V, se acorta (16), lo cual posibilita que cada impulso auricular se trasmita a los ventrículos.

También se ha indicado, que se produce un enlentecimiento de la frecuencia auricular (17), esto a su vez ocasiona la penetración de los impulsos auriculares, después de la terminación del periodo refractario del nodo A-V. En periodos de esfuerzo físico, se prolonga la longitud del ciclo auricular por activación simpática (18), hecho que produce el desarrollo de ALA con conducción A-V 1:1 y frecuencias ventriculares muy rápidas Los antiarrítmicos por su efecto proarrítmico, pueden provocar ALA con conducción A-V 1:1; Los casos

informados son de los siguientes fármacos: Adenosina (19) Vernakalant (20), Flecainida (21), Disopiramida (22), Propafenona (23). Las causas para el efecto proarritmico, sería en el caso de la adenosina, el aumento del tono simpático (24) Luego, algunos antiarrítmicos están contraindicados en pacientes con cardiopatía estructural (25), entonces, cuando pese a eso se administran, sucede enlentecimiento de la frecuencia auricular (26), disminución de la velocidad de conducción auricular (27) en suma: prolongación de la longitud del ciclo del aleteo auricular (28).

Lo que sucede es que, con la intención de revertir una fibrilación auricular, se usan-10-antiarrítmicos, que luego provocan ALA con conducción A-V 1:1 (29). También se usan antiarrítmicos, cuando se quiere enlentecer la frecuencia cardíaca para ver mejor las ondas del ALA; como se informó un caso, en un paciente con ALA 2:1, al que se administró adenosina, para confirmar el diagnóstico; pero se aceleró la frecuencia ventricular y el ALA pasó a una conducción A-V 1:1, con hipotensión, que no fue persistente, mejorando la conducción A-V y las condiciones hemodinámicas del paciente (30): el mismo propósito, se hubiera cumplido, sin complicaciones, con una maniobra vagal.

Otras causas menos frecuentes de esta arritmia, se han informado en casos de pruebas de esfuerzo (31), asociada a endocarditis (32) o hipertiroidismo (33) También se ha descrito presentación espontanea, sin ningún factor predisponente (34).

En cuanto se refiere al tratamiento, las guías de conducta de la Sociedad Europea de Cardiología, sobre taquicardias supraventriculares, indican que cuándo el ALA provoca inestabilidad hemodinámica, se debe efectuar cardioversión eléctrica (35); así se procedió en 5 casos de esta serie presentada, pero también en pacientes estables, si se va a controlar el ritmo, se puede efectuar cardioversión eléctrica, o fármacos antiarrítmicos. En el caso presentado por Sosa y Arce (36) debido a que tenía hipotensión arterial (Presión arterial= 80-60), tanto para el control de la frecuencia cardíaca, como para la reversión de la arritmia (ALA con conducción A-V 1:1), se debió emplear la cardioversión eléctrica.

Como dijimos en líneas arriba, la arritmia en cuestión, tratada en este artículo, debe ser diagnosticada a la brevedad posible, pues la alta frecuencia ventricular, provoca inestabilidad hemodinámica, la cual puede derivar en muerte súbita. La frecuencia ventricular muy rápida (mayor a 200), la visualización de las ondas auriculares típicas del ALA, pero, sobre todo, las maniobras vagales, son las que posibilitan ver las ondas auriculares de ALA. Con una maniobra vagal correctamente efectuada pudo haberse visto el ALA en el caso de Cereceda y Asenjo (37) y luego proceder al choque eléctrico.

En conclusión: En 10 casos de ALA con conducción 1:1, en la mayoría de ellos había una cardiopatía de cierta severidad. La cardioversión eléctrica, fue el tratamiento que se usó en 5 pacientes. Se debe diferenciar de la taquicardia paroxística supraventricular y de la taquicardia ventricular; El diagnóstico debe sospecharse y efectuar maniobras vagales, para ver las ondas auriculares. El estado hemodinámico de estabilidad o inestabilidad, es de tomar en cuenta para el tratamiento correspondiente: Cardioversión eléctrica o antiarrítmicos.

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Urogenital Anomalies in Anorectal Malformations and Hirschsprung's Disease: Prevalence, Diagnosis, and Management

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ABSTRACT

Introduction: Urogenital anomalies are responsible of approximately 50% of end-stage renal disease in children [5]. It is important to make an early clinical diagnosis and provide prompt management of these anomalies to prevent progression to renal failure. The aim of this study was to establish the correlation between urinary pathologies and anorectal malformations and Hirschsprung's disease and present their therapeutic particularities.

Means and Methods: We retrospectively conducted a descriptive study at the Pediatric Surgery Department of the Queen Fabiola Children's University Hospital (HUDERF) in Brussels. We got a clearance consent from the ethical committee of our hospital. During one month, we retrieved files of children who consulted for anorectal malformations and Hirschsprung's diseases from August 1, 2011 to June 31, 2024.

Keywords: urogenital anomalies; anorectal malformation; Hirschsprung's Desease.

Classification: NLM Code: WS 310

Language: English

LJP Copyright ID: 392828

Great Britain Journals Press

London Journal of Medical & Health Research

Volume 25 | Issue 3 | Compilation 1.0

Urogenital Abnormalities Associated to Anorectal Malformations and Hirschsprung's Disease

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ABSTRACT

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Results: We included 50 patients in our study; 16 cases of upper anorectal malformations and 34 cases of Hirschsprung's disease. For radiologic assessments, 30 patients underwent abdominal ultrasound (US) and urethrocystography was done in 8 patients. Seven cases of urologic anomalies were associated to anorectal malformations 43.8%. The different urinary abnormalities found were multicystic kidney (3 cases), vesicoureteral reflux (2 cases) and renal dysplasia (2 cases). Four cases of urologic malformations were associated to Hirschsprung's disease at least 11.8% (2 cases of megaureter and 2 cases of hydronephrosis). The conservative treatment has been practiced associated to antibiotic prophylaxis in 10 cases.

Conclusion: This study is showing that urogenital abnormalities are mostly associated to anorectal malformations than Hirschsprung's disease. In many cases the treatment is conservative.

Keywords: urogenital anomalies; anorectal malformation; Hirschsprung's Desease.

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I. INTRODUCTION

Urogenital anomalies involve morphologic and functional anomalies resulting from embryonic developmental disorders of the urinary tract and genital organs [1]. These anomalies are commonly described as genital malformations and congenital anomalies of the kidney and urinary tract (CAKUT). Genital malformations may affect the penis, scrotum, or testes in male gender, and vagina or labia in female. CAKUT affect the kidneys, ureters, bladder, and urethra. These

London Journal of Medical & Health Research

anomalies can be isolated or syndromic [2]. When syndromic, they may be associated with Hirschsprung's disease or anorectal malformations. Hirschsprung's disease is a congenital disorder involving the intrinsic nerve plexus, which is abnormally absent from the digestive wall. Anorectal malformations are congenital conditions arising from a developmental disorder of the posterior intestine, resulting in abnormalities that affect the rectum, anal sphincter, and/or urogenital system. Anorectal malformations are classified based on the position of the rectal pouch in relation to the puborectal sling of the anal sphincter muscles. High malformations occur when the rectum does not reach the pelvic floor, while low malformations occur when the rectum extends down to the perineum.

The diagnosis of urogenital anomalies must be done during the antenatal period with obstetrical US. The appropriated treatment depends to the type of malformation and its impact to the renal function without treatment. Then, out of surgery, a conservative treatment usually gives good results. Urogenital anomalies are responsible of approximately 50% of end-stage renal disease in children [5]. It is important to make an early clinical diagnosis and provide prompt management of these anomalies to prevent progression to renal failure.

Therefore, we conducted a retrospective study that aimed to establish the correlation between urinary pathologies and anorectal malformations or Hirschsprung's disease and present their therapeutic particularities.

II. METHODS

The study was conducted at the Pediatric Surgery Department of the Queen Fabiola Children's University Hospital (HUDERF). Ethical approval was obtained from the Ethics committee of the Queen Fabiola Children's University Hospital. Patient consent was not required due to the retrospective nature of the study. We retrospectively reviewed files of patients who were admitted in our Department for anorectal malformations and Hirschsprung's disease from August 1, 2011, to June 31, 2024. We Included all patients presenting Hirschsprung's disease and those with upper anorectal malformations. We excluded patients who presented lower anorectal malformations. Medical imaging, including abdominal US, cystourethrography (VCUG) and Magnetic Resonance Imaging (MRI), was used to diagnose and identify the type of urinary malformation.

Clinical parameters that we recorded included: age, sex, type of imaging, type of urinary abnormality, and treatment. Patient's data were stored in the X-Care system of the HUDERF. Data were analyzed with Microsoft Office Excel 2010 and SPSS software.

III. RESULTS

Demography Characteristics

Our study included 50 patients, comprising 32% (16 cases) with anorectal malformations and 68% (34 cases) with Hirschsprung's disease (Figure 1). The mean age of this sample was 15 months with the median of 5 months and the extremes ranged between 1 month and 132 months. The largest age group was between 2 and 6 months, accounting for 54% of cases (Figure 2). The sex ratio was 1 girl for 3 boys in both anorectal malformations and Hirschsprung's disease (Figure 3). In a total of 10 boys with urinary anomalies, 5 were associated to anorectal malformations and 5 others to Hirschsprung's disease. 2 girls presented urinary anomalies both associated to anorectal malformations. No urinary anomalies were observed in female patients with Hirschsprung's disease .

Imaging Finding

The abdominal US was the most imaging assessment in 30 cases and the cystourethrography (VCUG) in 8 cases. We also found 1 case of scintigraphy and 3 cases of magnetic resonance imaging (Figure 4).

Urinary Anomalies

Seven cases of urologic malformations were associated to anorectal malformations 43.8%. The different urinary abnormalities found were multicystic kidney (3 cases), vesicoureteral reflux

(2 cases) and renal dysplasia (2 cases). 4 cases of urologic malformations were associated to Hirschsprung's disease at least 11.8%. Different malformations were megaureter (2 cases) and hydronephrosis (2 cases) (Table 1).

Treatment

The management approach was conservative in 10 cases and the surgical treatment included orchidopexy, hydrocele treatment, hypospadias repair and fistulectomy (Table 1).

IV. DISCUSSION

We conducted a single center series in a short period; and this can justify our small sample size compared to others studies [2; 3; 4].

Demography Characteristics

The predominance of male gender with 10 boys for 2 girls in urinary tract anomalies has been since described by several authors [5; 6] out of specific anomalies found in boys and not in girls, such as hypospadias and cryptorchidism.

Imaging Finding

The abdominal US focused to the urinary tract (Figure 4) was the most imaging assessment in our study and has been described by other authors as the primary diagnostic tool of the urinary malformations [1; 5; 6]. It has advantages to be a non-invasive exam without radiation exposure of the newborn baby. However, as an operator-dependent exam, sometimes, it requires an additional exploration to confirm the diagnosis. Nevertheless, US (Figure 5) plays a key role in early diagnosis of such anomalies during pregnancy and in the follow-up of those patients [2]. Cystourethrography (VCUG) was mostly performed after US (Figure 6) and remains the gold standard for diagnosing the vesicoureteral reflux as reported in other studies [1]. It was performed in one case of Hirschsprung disease, where renal cavity dilation was observed on US. This indicates that VCUG was not routinely requested in Hirschsprung's disease cases unless there were suggestive signs. In anorectal malformations, VCUG was performed in 50% of patients. This exploration is more requested in anorectal malformation than in Hirschsprung's disease due to the higher incidence of urinary anomalies found in anorectal malformations, particularly in the digestive communication with the urinary tract described as fistula. According to Goosse et al. [5], 50% of anorectal malformations are associated to urinary anomalies. In our series we found 43.8%, this result can be similar Magnetic Resonance Imaging (MRI) was also required when ultrasound could not bring satisfaction especially to differentiate renal parenchyma (Figure 7) [1]. It was assessed in 3 patients within 2 cases of anorectal malformations and 1 case of Hirschsprung's disease. No assessment was requested in 12 cases of Hirschsprung's disease, suggesting that urinary malformations are not commonly associated to Hirschsprung's disease.

Urinary Anomalies

Congenital urinary anomalies are responsible for 50% of pediatric renal failure and mostly found in anorectal malformations. In Hirschsprung disease, urinary anomalies are rare but not absent [5]. According to Alessio Pini et al. [7], their incidence is 6-7% in Hirschsprung's disease. Our series reported 11.8% of urinary anomalies associated to Hirschsprung's disease. Many authors reported that Urinary tract anomalies are frequently associated to anorectal malformations and less associated to Hirschsprung's disease [4,5]. Furthermore, Pini Prato et al. [7] reported that, congenital urinary anomalies associated to Hirschsprung's disease are asymptomatic and therefore not routinely investigated by clinicians; then often being discovered accidentally. Other authors, such as Hoffman et al. [3], believe that the presence of urinary anomalies in Hirschsprung disease has long been underestimated, as most of these anomalies are not surgically treated. The most common urinary anomalies found in anorectal malformation were multicystic kidney, vesicoureteral reflux (VUR), and renal dysplasia. According to Sanchez et al. [4], VUR is the most frequent urinary anomaly in pediatrics, often associated with anorectal malformations and is typically manifested by urinary tract infections after the neonatal period. In Hirschsprung's disease, hydronephrosis and megaureter were urinary anomalies associated.

According to Hoffman et al. [3,8], these anomalies are commonly associated to Hirschsprung's disease, but are less diagnosed because they are usually asymptomatic.

Treatment

The Conservative treatment was commonly used combined to antibiotic prophylaxis. This choice is justified by the fact that most of these malformations are associated with urinary tract infections, which can progress to renal damage without treatment [4; 5]. Surgical treatment was planned for the future in case of compromised urinary function in the patient. In our series, no case was managed surgically.

V. CONCLUSIONS

Our findings confirm that urinary anomalies are more frequently associated with anorectal malformations than with Hirschsprung's disease, aligning with previous literature.. The abdominal US focused to the urinary tract is the most imaging tool used for diagnosis. While ultrasound remains the primary diagnostic tool, VCUG or MRI should be considered in cases where ultrasound findings are inconclusive or suggest complex urinary anomalies. The treatment is either surgical in cases of compromised urinary function in the patient or conservative associated to antibiotic prophylaxis. Conservative treatment is indicated in the absence of clinical manifestations of urinary anomalies. Urinary anomalies are frequently asymptomatic in Hirschsprung's disease, which often leads to a missed diagnosis. In anorectal malformations, however, the majority of cases are associated with urinary anomalies, highlighting the importance of systematic screening for these anomalies in affected patients.

Declarations

- No conflicts of interest were reported among the study participants.
- Informed consent obtained by the ethics committee.
- No funding.
- Acknowledgements to the Medical Training Support Fund (FOSFOM) of Free University of Brussels, Belgium, and the University of Douala, Cameroon.

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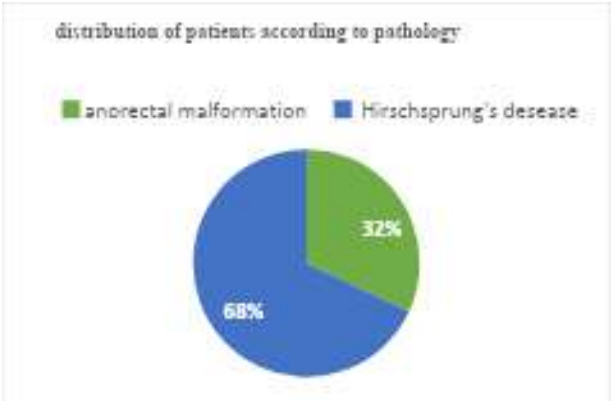

Figure 1: Distribution of Patients According to Pathology

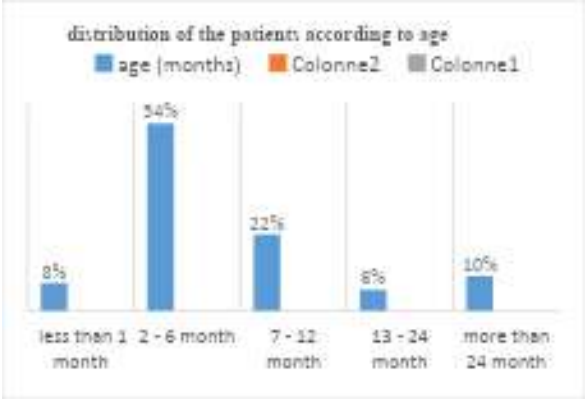

Figure 2: Distribution of Patients According to Age

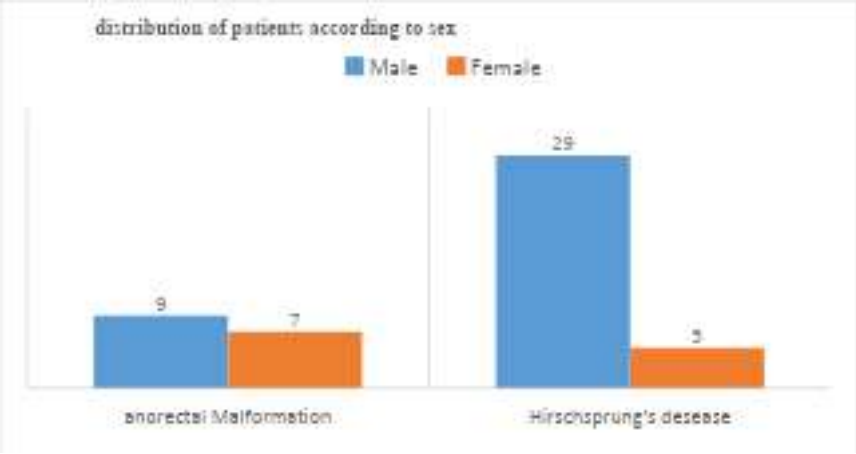

Figure 3: Distribution of Patients According to Sex

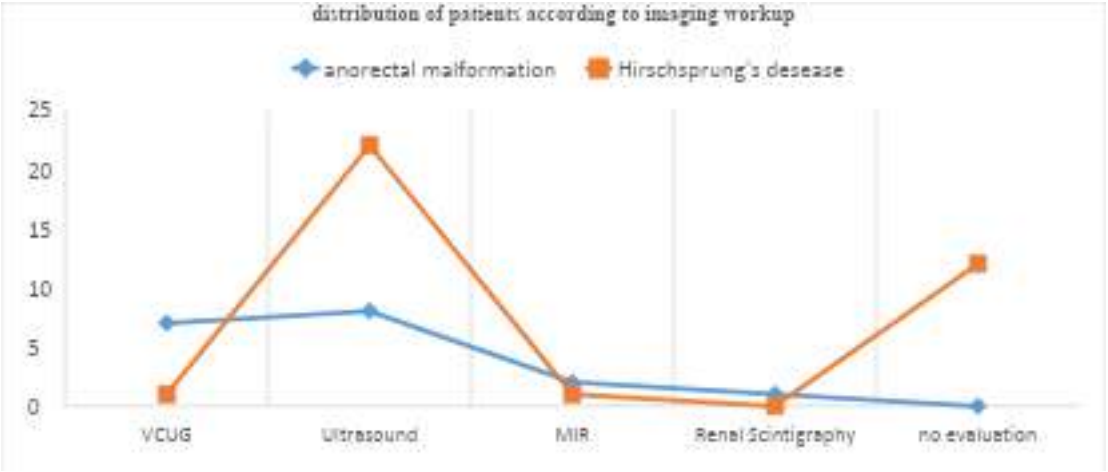

Figure 4: Distribution of Patients According Imaging Workshop

Figure 5: Renal anomaly, left kidney atrophy (left) seen on ultrasound, and normal kidney on the right in the same patient

Figure 6: Cystography Showing Left Vesicoureteral Reflux (Vur) And Right Rectourethral Fistula

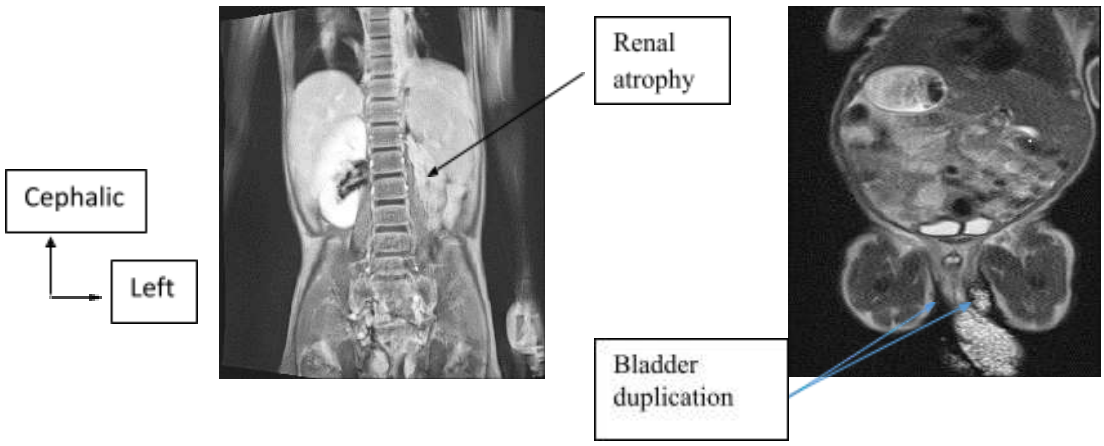

Figure 7: Mri Showing Left Renal Atrophy (At Left) And Blader Duplication (At Right)

Table 1: Distribution of Patients according to Pathology and Treatment

	Anorectal Malformation	Hirschsprung Desease	Treatment
PATHOLOGIES			
VESICO-URETERAL REFLUX	2	0	Conservative + Antibiotics (ATB)
RENAL ATROPHY	1	0	Conservative
RENAL DYSPLASIA	2	0	Conservative
MULTICYSTIC KIDNEY	3	0	Conservative
MEGAURETER	1	2	Conservative + ATB
RECTO- URETRAL FISTULA	1	0	Fistula closure
HYPOSPADIAS	0	1	Uretroplasty
RENAL DUPLICATION	0	1	Conservative
HYDROCELE	0	1	Hydrocele repair
JUNCTIONAL SYNDROME	0	1	Conservative
HYDRONEPHROSE	1	2	Conservative
CRYPTORCHIDISM	1	0	Testicular descend
URETEROCELE	1	0	Conservative
SINGLE KIDNEY	1	0	Conservative
BLADDER DUPLICATION	1	0	/

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