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A Rare Case Report on Facial Tuberculoid Leprosy

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ABSTRACT:
Background: Mycobacterium leprae causes leprosy, which is a chronic, infectious, systemic illness with Paucibacillary and Multibacillary varieties. It is very contagious and has a slow onset. Hypo pigmented skin lesions with diminished feeling characterise the clinical appearance. Acid-fast bacilli in tissue specimens are considered a gold standard for diagnosis Tuberculoid leprosy is characterised by an extremely dry, scaly, hypo pigmented patch or plaque with very sharply defined edges and is associated with the most conspicuous immune response. Except for those on the face, plaques are usually numbing. A total of one to five lesions are seen. Peripheral nerves can be rather noticeable.
Patient Information: A 36 years old maleclient was admittedto tertiary care hospital with the presenting complaintsof Pale colour patches over skin , small skin lesion, Numbness,muscle weakness painless swelling & lump on the face.
Main symptoms and importance of clinical findings: Various tests had been performed on the patientlike, careful history collection, physical examination, blood test &skin test etc.
Medical Management: Patient was treated with the medication as order by doctor such as,Multi drug therapy (MDT) is given For adults,capsule of rifampicin 600 mg once a month,tablet of dapsone 100 mg daily,capsule of clofazimine 300mg once a month and 50 mg daily.
Nursing management: Monitored all vital signs checked 8 hourly. Administer medication as per doctor's order.
Conclusion: Appropriate diagnosis and medical management helps out to recover and live productive life in such patients.

Keywords: Leprosy,Mycobacterium leprae, Multibacillary,Paucibacillary.

Introduction:
Mycobacterium (M.) leprae causes leprosy, a chronic infectious disease. In 2015, 210,758 new cases were diagnosed around the world. India, Brazil, and Indonesia have the greatest rates of infection. While the exact mode of transmission is unknown, nasal droplet infection is thought to be the most likely. The pathogen mostly attacks the skin and nerves.The disease's progression is determined by the host's immunity. Multibacillary lepromatous variants are clinically distinct from paucibacillary tuberculoid types.[1]Aside from the different skin lesions, the illness is characterised by peripheral nervous system impairment. Cell-mediated immunity against M.leprae is strong in tuberculoid leprosy.[2]A localised infection is present, with fewer than five asymmetrically distributed skin lesions on the face, trunk, and extremities. A solitary, hypo pigmented, finely defined plaque with a raised border is the usual lesion.[3] The plaque's centre area may be erythematous or hypopigmented, and it may be scaly. Over 200,000 new cases of leprosy were reported worldwide in 2017. The global prevalence is estimated to be around 5.5 million, with India, Indonesia, Myanmar, Brazil, and Nigeria accounting for 80 percent of cases. There were 38 instances documented in New Zealand. Infection can strike anyone at any time. There are two peaks in age: 10–14 years old and 35–44 years old. It is uncommon in newborns and small children. [4]
The mode of infection transmission is still a point of contention. It's thought to be spread by inhaling airborne droplets from infected people when they cough or sneeze. In 80% of new cases, there is a definite history of continuous contact with a leprosy patient who has not been cured.[5]The vast majority of people who are exposed will not develop symptoms. The incubation time is lengthy, ranging from 6 months to 20 years on average. Symptoms are usually minor at first and only become apparent years following exposure.

Patient information –
A 36 years old male client admitted in Tertiary Care Hospital, Wardhawith the present complaints of Pale colour patches over skin , small skin lesion, Numbness, painless swelling & lump on the face a Patient first time came in A.V.B.R.Hospital and they approach dermatology department & concern the physician for further treatment of facial tuberculoid leprosy.
Primary concern & symptoms of the patient: A 36 years old male client was admitted in hospitalwith the chief complaints of Pale colour patches over skin, small skin lesion, Numbness, painless swelling, ulcer & lump on the face he was very irritable and sleeping pattern also change.
Medical history: This patient had history of facial tuberculoid leprosy.
Family History: A patient is belong to nuclear family **.** he is the head of the family. In family there is no any past history i.e. diabetes mellitus, hypertension, asthma etc.
Psycho-social history: Patients maintain good inter personal relationship with doctors, nurses and their relatives. He mentally stable, conscious and oriented.
Clinical findings:
Patient had abnormalities found on examination.
Skin: In my patient pale colour skin patches &erythematous macules,skin lesion are present **Head:** Lumps are present on the face, lack of eyebrows & eyelashes.
Extremities: Weakness of the hands & feet,Oedema.
Diagnostic Assessment:
On patient'scareful history collection andphysical examination, diagnosis of leprosy was made using the clinical signs and symptoms of the disease.In lepromin skin test was done my patient this test is used to determine what type of leprosy & a skin lesion biopsy is the removal of a piece of skin to diagnose an illness.[6]Lepromin skin test a strong positive response. A skin smear test should also be performed. No bacteria will be identified in a skin smear test from a person with paucibacillary leprosy, but bacteria will be found in a skin smear test from a person with multibacillary leprosy.Patient sensory testing was done.The touch and temperature of a wisp of cotton can be utilised to test for anaesthesia of the lesion.
Diagnostic testing:
In kidney function test urea serum is slightly decreased as 2.3m than normal value 2.5-6.5 & hemoglobin is decrease 12.5 gm% than normal value 13.2 to 16.6 gm. Other investigation like complete blood count and kidney function test was normal range .
Prognosis: The prognosis in patients suffering from facial tuberculosis leprosy is good because proper management of medicines & advice the doctors about medical & surgical management of patient & their relatives.
Therapeutic intervention: General measure to check the vital sign(Temperature, Pulse, Respiration and Blood pressure) prevention of complication &side effect of medication.
Medical Management:
Patient was treated with the medication as order by doctor, Multi drug therapy (MDT) is given Capsule Rifampicin 600mg once a month,Tablet Dapsone 100mg daily, Capsule Clofazimine 300mg once a month & 50 mg daily. In case of pain or fever may be present Aspirin or paracetamol should be given. 6 month regimen for paucibacillary leprosy (PB), 12 month regimen for multibacillary leprosy (MB).
Patients under treatment should be monitored for drug side-effect, leprosy reaction and for development of ulcer.
Managing the drug reaction:
-Every patient should be informed about the signs& symptoms of reaction.
-Inform them to go as soon as possible to the health center.
-Rest is important and continue multi drug therapy regularly.
-fill out the patient treatment card.
-Adequate care for disability prevention and rehabilitation.
Disfiguring mutilations are a sign of advanced sickness. The current treatment choices are based on World Health Organization (WHO) recommendations. Early treatment often leads to complete remission with no side effects.While paucibacillary leprosy is treated for at least six months with rifampicin and dapsone, multibacillary leprosy is treated for at least twelve months and also requires clofazimine.Leprosy reactions during treatment can significantly worsen the disease's course. **Surgical Management:**In this patient, no surgery is performed Only medical management is given.
Nursing Management:
1. Inform the patients about disease
2. Administer medication as per physician order.
3. Providing patients & relative with psychological support.
4. Establishing good interpersonal relationship.

5. Organizing health education to patients , their families and community .

Prevention: In addition to tuberculosis, the BCG vaccine provides varying levels of protection against leprosy. This vaccination looks to be about 25% effective, with two doses proving to be more beneficial than one. The search for a more effective vaccine continues.

- Providing comprehensive care entails educating patients how to take care of themselves.
- Physiotherapy exercise are taught to the patients to prevent the deformities from worsening.

Complications:

- Sensory loss
- Permanent nerve damage
- Muscle weakness
- Disabilities

Follow-up and outcomes: On the basis of the physician's suggestion, the patient was scheduled for regular follow-up**.** Patient symptoms are improving after giving multi drug therapy in regular basis.

Discussion:

Leprosy is a chronic disease with a wide range of clinical morphological features. Because of its many forms, a disease like leprosy necessitates a proper classification as well as a management plan.[7]Ridley and Jopling's classification, which is mostly based on immunity but has been linked to clinical, histological, and bacteriological findings, is the most widely recognised by researchers. They proposed dividing leprosy into five categories based on immunological differences: tuberculoid, borderline tuberculoid, mid-borderline, borderline lepromatous, and lepromatous are the several types of tuberculoid. They subsequently refined their method by linking clinical and bacteriological findings in each group to immunological and histological findings in each group.[8] When M. leprae infects a person with high cell-mediated immunity, the bacilli are killed (CMI). Certain bacilli will develop and a lesion will appear if the CMI is inhibited.More evident clinical and histological symptoms of the various types of leprosy may develop over time, depending on the degree of immunity. The balance of agent and host resistance determines the clinic pathological picture. Histopathological testing aids in the confirmation of a preliminary clinical diagnosis as well as accurate typing. Histology can also show how a disease is progressing or regressing while being treated. Different sample sizes, biopsy site selection, lesion age, immunology, and the patient's treatment condition at the time of biopsy are all factors that influence the histopathological diagnosis.[9]

If a patient has more than 30 lesions, he is classified as borderline lepromatous leprosy, according to the Ridley and Jopling classification. If a patient has more than or equal to six lesions, he is classified as having multibacillary spectrum leprosy by the World Health Organization. Despite the fact that our patient had more than 50 lesions, histological findings suggested tuberculoid leprosy, which is classified as paucibacillary.[10] In their investigation, Ridley and Jopling discovered that 68.3 percent of patients had full agreement between clinical and histological categories. In a study of 736 individuals, Kalla et al. discovered that the LL and TT groups had the highest parity Despite having such a precise classification, leprosy cases revealed a wide range of clinical and histological characteristics. In polar types of disease, which are usually stable, clinic pathological concordance is highest. However, in our situation, the patient was clinically at the lepromatous pole but histologically at the tuberculoid pole.[11]

Because the parameters used for histopathologic classification are well-defined, accurate, and take into account the tissue's immunologic response, the difference between clinical and histological data is expected. Clinical classification only recognises the lesions' gross appearances, which are caused by the underlying pathological change. Furthermore, because the great majority of leprosy cases are part of a constantly fluctuating immunological spectrum, histological classification might reveal any recent shifts in a case's spectrum location.[12]Clinical indications and symptoms may appear before the currently recognised typical tissue alterations in some circumstances, or vice versa. If a biopsy is obtained early on, there is a good chance that the clinical and histopathologic findings will disagree. Because discrepancy is dependent on the lesion biopsied at the time of study.A number of interesting cases on different types of leprosy[12-16] and their management[17-20] were reviewed. It is crucial to categorise leprosy into a certain spectrum in order to determine a treatment plan, and histopathology plays an important role in this.

Informed Consent: The patients & their relative were informed before taking the case .

Conclusion:

A 36 years old male patientwas admitted in rural tertiary care hospital. with the present complaints of Pale colour patches over skin, small skin lesion, Numbness, painless swelling, ulcer & lump on the face. After that

undergoing all investigation, he was diagnosed as Facial Tuberculoid Leprosy**.**Appropriate diagnosis and medical management help out to recover and live productive life in such patients.

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