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Case Report

Cutaneous Tuberculosis - A Case Report

Nanda Patil[1], Neerav Saini[2], Sneha Saini[2]

[1]Professor, [2]Assistant Lecturer,
Department of Pathology, Krishna Institute of Medical Sciences University, Karad.

Corresponding Author: Neerav Saini

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ABSTRACT

Cutaneous tuberculosis is rare despite of increasing prevalence of tuberculosis worldwide. The disease presents with a varied clinical features leading to misdiagnosis. Physician awareness and a high index of suspicion are necessary to diagnose cutaneous forms of tuberculosis. We report a case of cutaneous tuberculosis to highlight its clinical features and to increase the awareness so as to prevent misdiagnosis of the disease.

Key words: Cutaneous tuberculosis, varied clinical presentation.

INTRODUCTION

Cutaneous tuberculosis is an extrapulmonary tuberculosis which shows a varied clinical presentation and poses diagnostic challenges to clinicians. Histopathological features play an important role in making the diagnosis. It is important for clinicians to make a proper diagnosis and to give prompt treatment. We here report a case of cutaneous tuberculosis which was misdiagnosed clinically as neurofibroma.

CASE REPORT

A 19 year old nondiabetic male patient presented with fever and a swelling on the right forearm since 6 months. There was no history of trauma, recent BCG vaccination or corticosteroid therapy. Complete blood count, X-ray and sputum examination did not reveal any significant abnormality. ESR was 86 mm at the end of one hour. HIV status was non- reactive. On examination there was a 3x2 cm. swelling on the right forearm, which was painful and covered with intact skin. Considering it clinically as neurofibroma the swelling was excised and sent to the Pathology department for histopathological examination.

Pathological examination: We received multiple, irregular, grey-white, soft tissue bits weighing 2 grams. Microscopic examination revealed numerous granulomas in the dermis and subcutaneous tissue which were composed of epithelioid cells, Langhan's giant cells, lymphocytes with areas of caseation (Fig.1, 2 &3). Special stains like 5%, 20% Zeihl- Neelson, Periodic Acid Schiff stain did not reveal any organism. Overlying epidermis revealed irregular thickening. Considering all these clinical and microscopic features the

diagnosis was given as cutaneous tuberculosis. The patient improved with anti-tuberculous treatment.

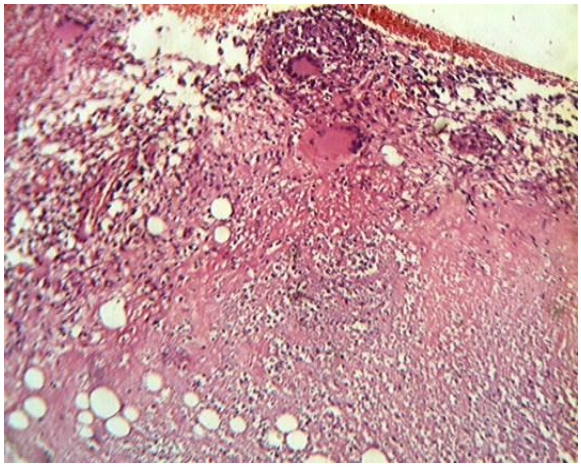

Fig.1 showing granulomatous inflammation in the subcutaneous tissue, Langhans giant cells and caseation. (H&E, 400X)

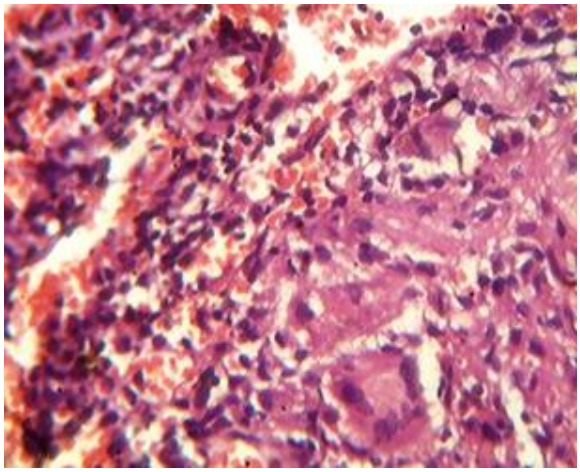

Fig.2 Showing granulomas with giant cell (400X, H&E)

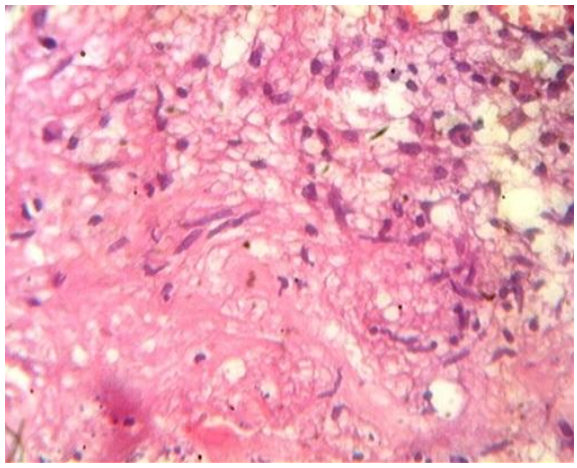

Fig.3- Showing epithelioid cells (400X, H&E)

DISCUSSION

Cutaneous tuberculosis of skin is declining all over the world. Tuberculosis of skin is an important infective disorder in India caused by Mycobacterium tuberculosis or by atypical Mycobacterium. The infection can be primary tuberculosis when there is no history of previous exposure or secondary tuberculosis. [1] Increased risk of acquiring disease occurs with HIV infection, intravenous drug abuse, diabetes mellitus, immunosuppression therapy, malignancies, end stage renal disease and infancy. [2] Primary tuberculosis of skin is very rare and results from inoculation. Secondary tuberculosis is subdivided on the basis of various clinical features into lupus vulgaris, tuberculosis verrucosa, scrofuloderma, orificial tuberculosis and miliary tuberculosis. [3] Route of infection in cutaneous tuberculosis is inoculation in case of tuberculous chancre and warty lupus and hematogenous in case of tuberculous gumma and military tuberculosis. In scrofuloderma it is extension through underlying focus while in case of lupus vulgaris there may be inoculation or hematogenous spread. [4] Lupus vulgaris is the commonest form of re-infection tuberculosis seen in young adults caused almost exclusively by Mycobacterium tuberculosis. [5] Commonest sites are head and neck region followed by extremities and buttocks. [6,7] The lesions are in the form of single or multiple, erythematous papules. Our case presented with a single nodule on forearm. Complications include the development of contractures, lymph edema, squamous cell carcinoma, rarely basal cell carcinoma and cutaneous lymphoma. [8,9] Lupus vulgaris shows varied histological appearance and most commonly shows granulomas located in superficial dermis. They are composed of epithelioid cells, lymphocytes, multinucleated giant cells with or without central caseation necrosis. Acid

fast bacilli are very infrequent. Overlying epidermis may be atrophic, acanthotic or ulcerated. The lesions are commonly seen on the areas of skin having relatively low temperature. Similar microscopic features were seen in our case.

Miliary lesions are an aggressive form showing numerous acid fast bacilli. Scrofuloderma shows ulcerated dermal abscess with lot of necrosis and very few bacilli. Subcutaneous gummas show extensive caseation and few acid fast bacilli with granulomatous reaction. Other morphological forms of cutaneous tuberculosis are primary chancre which shows neutrophilic abscess with numerous bacilli. Warty lupus is characterized by papillomatosis and hyperkeratosis and absent granulomas with sparse lymphocytes, neutrophils and few acid-fast bacilli. Orificial lesion show extensive necrosis with numerous bacilli with neutrophils and histiocytes and no granulomas.

Diagnosis: Diagnosis of cutaneous tuberculosis requires a full work up including detailed clinical history, physical examination, skin biopsy with acid fast bacilli staining and other diagnostic tests like X-ray chest and sputum examination. Mycobacterial culture is the most reliable method for diagnosis, but the yield is often less and takes long time.

Differential diagnosis: Sarcoidosis is differentiated by lack of caseation and discrete arrangement of granulomas. Leprosy shows perineural distribution of granulomas. Deep fungal infections are confirmed with Periodic Acid Schiff positivity. Despite these points diagnosis of cutaneous tuberculosis can still be difficult due to failure to demonstrate acid fast bacilli and hence occasionally it may be a diagnosis by exclusion which is confirmed by a therapeutic trial of anti-tuberculous drugs. [4] Our case also revealed no acid fast bacilli but the patient was improved with therapeutic trial of anti-tuberculous drugs.

CONCLUSION

Cutaneous tuberculosis mimics a wide differential diagnosis due to varied clinical presentation. It is necessary to avoid misdiagnosis of cutaneous tuberculosis as the disease is completely curable with anti-tuberculous drugs. High index of suspicion is necessary to diagnose many clinical variants of cutaneous tuberculosis to prevent missed or delayed diagnosis.

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