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Rare Case of Multifocal Cutaneous Tuberculosis Verrucosa Cutis: Posing Clinical and Histopathological Diagnostic Dilemma

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Authors' contributions

This work was carried out in collaboration between all authors. Author RS did the manuscript preparation. Authors KN and PK oversaw the manuscript work and clinical aspects. Author UK worked with histopathology slides for this case. All authors read and approved the final manuscript.

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Case Study

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ABSTRACT

Introduction: Tuberculosis is an ancient universal health problem, with cutaneous tuberculosis being a rare extra pulmonary form that accounts for only 0.15-2%. Here we report a case of elderly female diagnosed with multifocal, multicentric Tuberculosis verrucosa cutis.
Presentation of Case: Sixty nine year old female presented to the skin out-patient department (OPD) at a tertiary care center, with chief complaints of multiple, multifocal asymptomatic raised verrucous lesions initially over the right upper limb and face, which insidiously progressed to involve lower limbs and nape of the neck, noticed from past 14 years. Based on histopathological features and clinical examinations, diagnosis of tuberculosis verrucosa cutis was made and patient was started on category 1 anti-tubercular treatment.
Discussion and Conclusion: Tuberculosis verrucosa cutis occupies a pre-eminent position across the spectrum of cutaneous tuberculosis. Tuberculosis verrucosa cutis is positioned between

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lupus vulgaris and scrofuloderma. Tuberculosis verrucosa cutis is no longer the most frequent type of skin tuberculosis. Present rare case of multifocal tuberculosis verrucosa cutis, display histopathologic features in favor of tuberculosis verrucosa cutis. Partial remission in spite of long term anti-tubercular therapy and other modalities of treatment, as in this case report, tuberculosis verrucosa cutis remains a diagnostic dilemma difficult to be solved.

Keywords: Multifocal TBVC; Cutaneous tuberculosis; TBVC.

1. INTRODUCTION

Tuberculosis (TB) is an ancient universal health problem, with cutaneous TB being a rare extra pulmonary form that accounts for only 0.15-2%. Asia has highest incidence of cutaneous tuberculosis (TBVC) in comparison to rest of the world [1].

TBVC represents a variety of reinfection (secondary) [2]. The evolution of cutaneous tuberculosis is dictated by the nature of patient's cell-mediated immunity, pathogenicity of infectious organism, route of infection and patient's prior sensitization to tuberculosis diagnosis [3].

Cutaneous tuberculosis has a varied clinical presentation which pose a diagnostic challenge and still remains an enigma to today's dermatologists, wide variation in its clinical appearance, histopathology, immunology and response to treatment [4]. Here we report a case of elderly female diagnosed with multifocal, multicentric Tuberculosis verrucosa cutis.

2. PRESENTATION OF CASE

Sixty nine year old female who is from a village in south India, house wife by occupation, presented to the skin out-patient department (OPD) at a tertiary care center, with chief complaints of multiple, multifocal asymptomatic raised verrucous lesions initially over the right upper limb and face, which insidiously progressed to involve lower limbs and nape of the neck, noticed from past 14 years. History of going to agricultural fields and handling cattles occasionally present.

Anti-tubercular medications prescribed upon histological diagnosis of Cutaneous Tuberculosis, but discontinued the treatment after 2 weeks. History of homeopathic medications for 4.5 yrs with no improvement with multiple hospitals visits for the same was done with no relief. No history of any sharp object trauma/ exudates from the lesions/ systemic complaints suggestive of Tuberculosis. No other comorbidities or any relevant family history of tuberculosis.

On total body cutaneous examination following findings were noted.

2.1 Face

Annular hyperkeratotic crusted plaques over bilateral cheek, 6x5 along central aspect of left side of nose extending to left malar and upper lip (Fig. 1).

Fig. 1. Annular plaque over cheek and nose

2.2 Right Forearm

Polycyclic serpiginous hyperkeratotic plaque in the middle third (Fig. 2).

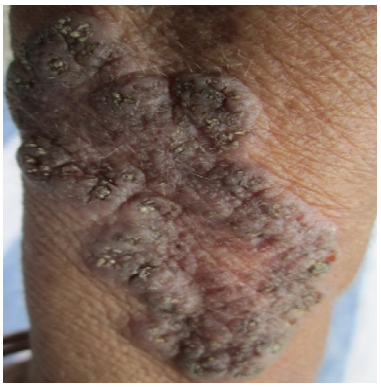

Fig. 2. Hyperkeratotic plaque at the right forearm in serpigenous pattern

2.3 Knees

Hyperkeratotic/verrucous plaque lesions with areas of atrophy bilaterally (Fig. 3).

Fig. 3. Hyperkeratotic lesions in the knees

Nape of the neck: Annular /serpiginous plaques raised margins, central depression & atrophy.

Right cubital area: Well-defined 5x4 cm annular warty plaque with central atrophy surrounded by hyper keratotic border.

Diascopy was negative for apple jelly nodules. BCG scar over left deltoid region, no lymphadenopathy. Based on the clinical presentations, we arrived at following differential diagnosis such as Tuberculosis verrucosa cutis (TBVC), Chromoblastomycosis, Atypical mycobacterial infection, Blastomycosis, Porokeratosis (Giant), Granuloma annulare, and squamous cell carcinoma.

Excision biopsy was done at multiple sites and at 2 different intervals sent for histopathological examination.

2.4 Histopathological Examination

Leg lesions: epidermis shows verrucous hyperplasia, hyperkeratosis and hyper granulosis. Dermis showed epitheliod cell granulomas in major part of dermis with many langhans giant cells and lymphoplasmacytic infiltrate (Fig. 4).

On further evaluation, the total count, differential leucocyte count, ESR, serum biochemistry RFT and chest X-ray were found to be within normal limits. Culture for Acid fast Bacilli (AFB) was negative at 2, 4, 8 weeks. Culture for deep mycosis and atypical mycobacteria was also negative. Montoux test done i.d. Injection of 0.1 ml was negative after 72 hrs. IIF techniques, Montenegro tests were requested and PCR was also recommended but patient lost to follow up.

Based on histopathological features and clinical examinations, diagnosis of Tuberculosis verrucosa cutis (TBVC) was made and patient was started on category 1 anti-tubercular treatment (ATT). Patient showed incomplete response to treatment even after completion of 1 year of treatment. Patient was also treated with Levofloxacin in view of atypical tuberculosis. Further continuation of ATT with subsequent trail of cryotherapy of 3 sittings for the leg lesions was given, but the patient was lost to follow up after two years of treatment.

3. DISCUSSION

In 1862, Verruca necrogenica is the term coined by Wiks and Poland for Tuberculosis verrucosa cutis. Laennec reported first description of TBVC based on his own contracted infection in autopsy room [5].

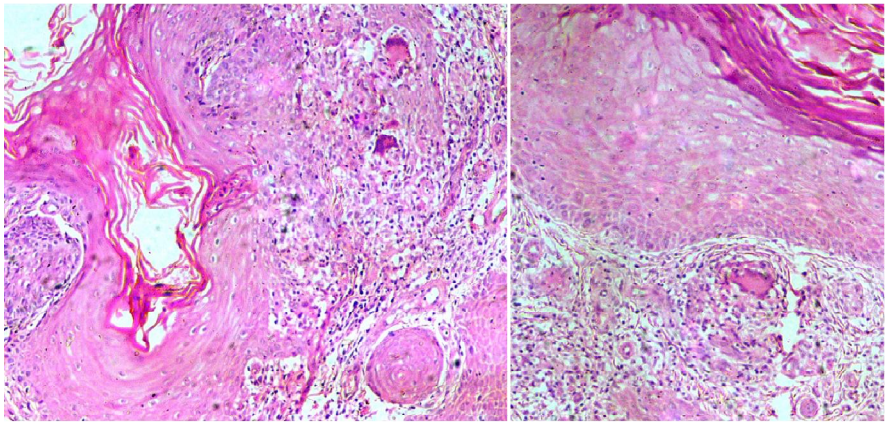

Fig. 4. Histopathological examination of leg lesions

Tuberculosis verrucosa cutis (TBVC) occupies a pre-eminent position across the spectrum of cutaneous tuberculosis. TBVC is positioned between lupus vulgaris and scrofuloderma. TBVC is no longer the most frequent type of skin tuberculosis. Padmavathy et al have reported an incidence of TBVC of 27.3% in their study [6]. Similarly few other studies have shown that the incidence of TBVC ranges from 4 to 32% [7-9].

Lesions of TBVC occur on the areas exposed to trauma and infected sputum or other tubercular material. In Europe, the lesions are most likely to occur on the hands; whereas in Asia, the knees, ankles, and buttocks are mainly involved [10]. Up to 90% occurrence in lower limbs [5].

Figs. 5 and 6. Showing before and after images (response to anti-tubercular treatment)

Cases of Cutaneous TB was more among males. No particular precipitating factor could be linked for the risk, except increased risk of traumatic injury as most of the men are involved in manual work [5]. There are only few studies of multi focal unusual presentation of tuberculosis verrucosa cutis lesions. In developing countries like India, diagnosis is still relied on tests like chest X-ray, Montoux, sputum smear and histopathological examination. However not any of the test are absolute in terms of diagnosis [11]. With ATT, successful resolution of the lesions can be observed within 3 months.

In this present case, we report the observation of multifocal TBVC in elderly female with no history of any personal or family history of TB, without any occupational risk and with minimal response to treatment in contrast to other studies. Extra pulmonary TB shows response in all cases within 3 months therapy with 3 drug regimen with successful subsidence of the disease, which was absent in this case.

4. CONCLUSION

Present rare case of multifocal TBVC, display histopathologic features in favor of TBVC. Partial remission inspite of long term anti-tubercular therapy and other modalities of treatment, as in this case report, TBVC remains a diagnostic dilemma difficult to be solved.

CONSENT

All authors declare that 'written informed consent was obtained from the patient (or other approved parties) for publication of this case report and accompanying images'.

ETHICAL APPROVAL

It is not applicable.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. Jiby Rajan, Ashok Thomas Mathai, Prasad PVS, Kaviarasan PK. Multifocal tuberculosis verrucosa cutis. Indian J Dermatol. 2011;56(3):332–334.
2. Ho CK, Ho MH, Chong LY. Cutaneous tuberculosis in Hong Kong:an update. Hong Kong Med J. 2006;12:4.
3. Virendra N. Sehgai, Kabir Sardaiia, Promila Bajaj, Sambit Bhanacharya. Tuberculosis verrucosa cutis: Antitubercular therapy, a well-conceived diagnostic criterion. Int J Dermatol. 2005;44:230-232.
4. Joseph Barbagallo, Patricia Tager, Rosemary Ingleton, Ranella Hirsch, Jeffrey Weinberg. Cutaneous tuberculosis

diagnosis and treatment. Am J Clin Dermatol. 2002;3:5.

5. Sangita Ghosh, Kamal Aggarwal, Vijay Kumar Jain, Soumik haudhuri, Epsita Ghosh, Arshdeep. Tuberculosis Verrucosa Cutis presenting as diffuse plantar Keratoderma: An unusual sight. Indian J Dermatol. 2014;59(1):80–81.
6. Padmavathy L, Lakshmana Rao, Pari T, Ethirajan N, Krishnaswamy B. Lupus vulgaris and tuberculosis verrucosa cutis (tbvc) –a clinical, pathological and epidemiological study of 71 cases. Indian J Tuberc. 2008;55:203-209.
7. Kumar MV, Kaviarasan PK, Thappa DM, Jaisankar JJ. Tuberculosis verrucosa cutis complicating tropical elephantiasis. Indian J Dermatol Venereol Leprol. 2001;67: 49–51.
8. Archana Singal, Sidharth Sonthalia Vashisht P, Sahoo B, Khurana N, Reddy BS. Cutaneous tuberculosis in children and adolescents: A clinicohistological study. J Eur Acad Dermatol Venereol 2007;21: 40-7.
9. Amylynne Frankel, Carolin Penrose, Jason Emer. Cutaneous tuberculosis a practical case report and review for the dermatologist. J Clin Aesthet Dermatol. 2009;2(10):19–27.
10. Wong KD, Lee KP, Chiu SF. Tuberculosis of the skin in Hong Kong – a review of 160 cases. Br J Dermatol. 1968;80: 424-29.
11. Hasibur Rahman, Nazma Parvin Ansari. Extensive multifocal tuberculosis verrucosa cutis in a young child. Medical Practice and Review. 2011;2(6):60-65.

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