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Case Report

Pyoderma gangrenosum in tuberculosis: A rare association

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ABSTRACT

Pyoderma gangrenosum is an uncommon dermatological condition with varied etiology. Mostly it is associated with inflammatory conditions and malignancies as well. Tuberculosis being a chronic infective process can also be associated with pyoderma gangrenosum although rare. We report a case of tuberculous pleural effusion presenting with pyoderma gangrenosum during the course of treatment and its subsequent management while continuing the treatment for tuberculosis.

1. Introduction

Tuberculosis still continues to puzzle physicians with its myriad manifestations and associations. Pyoderma gangrenosum is one of such unusual associations. In around 50 % of the cases with pyoderma gangrenosum an underlying disease or a predisposing factor is found.[1] Being an inflammatory neutrophilic dermatosis itself its association with tuberculosis is not common and only 10 cases with tuberculosis with an associated pyoderma gangrenosum have been reported so far.[2] Here in, we present a case of tuberculous pleural effusion doing well on anti-tubercular therapy until he developed pyoderma gangrenosum requiring appropriate management with immunosuppressant.

2. Case Report

A 50 year old male without any comorbidities presented with high grade fever and rapidly progressing skin lesions over arms and legs for 12 days. He was a diagnosed case of left tuberculous effusion on regular follow up and in the third month of antitubercular treatment with good clinicoradiological response (Figures 1 and 2) On examination he had a pulse rate of 90/ minute, blood pressure of 110/70 mm Hg, respiratory rate of 24 /minute and with an oxygen saturation of 99% at room air. His temperature was 102.4 degrees F. On examination there were multiple tender circular skin lesions with size around 4 cm X 4.6 cm over arms and legs with hemorrhagic crusting and necrotic bluish margins with undermined edges and associated with joint pain as well (Figure 3). All other systems were normal on examination except for a reduced vesicular breath sound over left infrascapular area. As per advice of dermatologists the patient underwent biopsy from the skin lesions which showed keratinized stratified squamous epithelium showing large areas of ulceration and marked folliculitis surrounded by dense polymorphs suggestive of pyoderma gangrenosum. His anti-tubercular treatment was continued and he was started on systemic steroids followed by addition of cyclosporine later to which he responded favorably (Figure 4). A written consent was taken from the patient for utilizing his clinical data and investigations.

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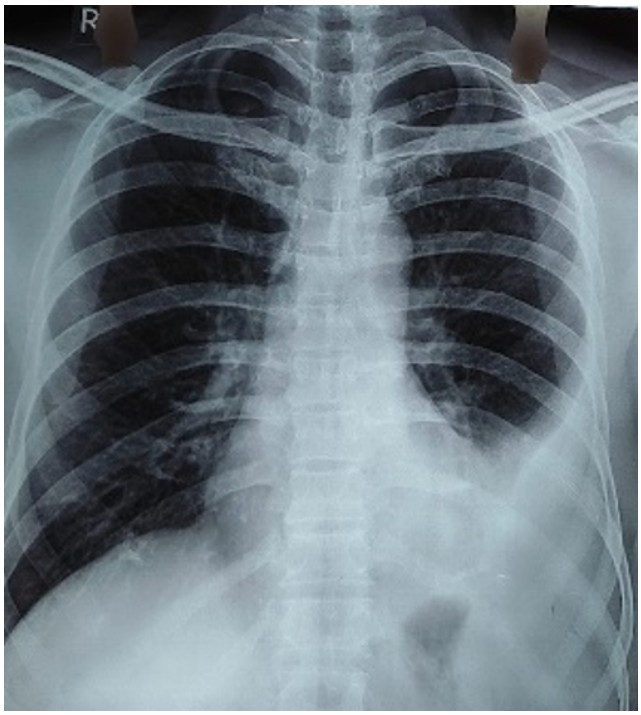

Fig. 1: Chest X ray showing left sided pleural effusion at the onset of antitubercular treatment

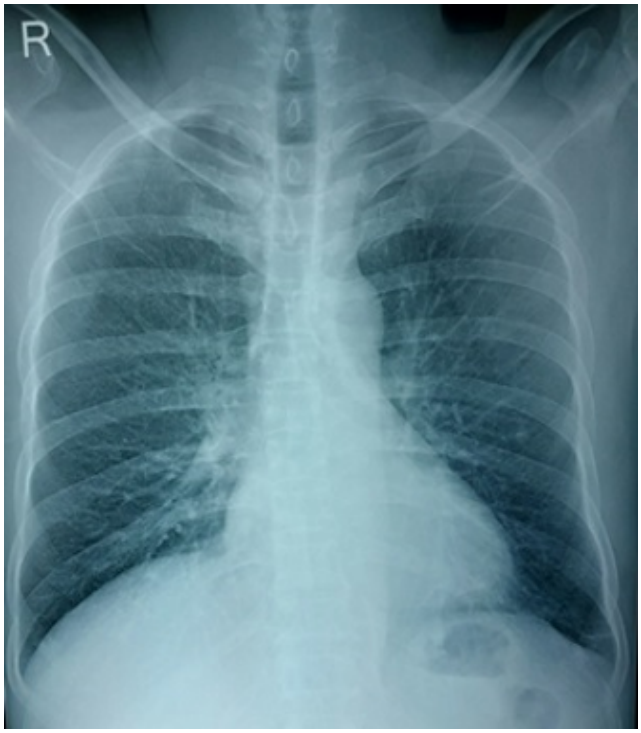

Fig. 2: Chest X ray showing improvement during the course of treatment

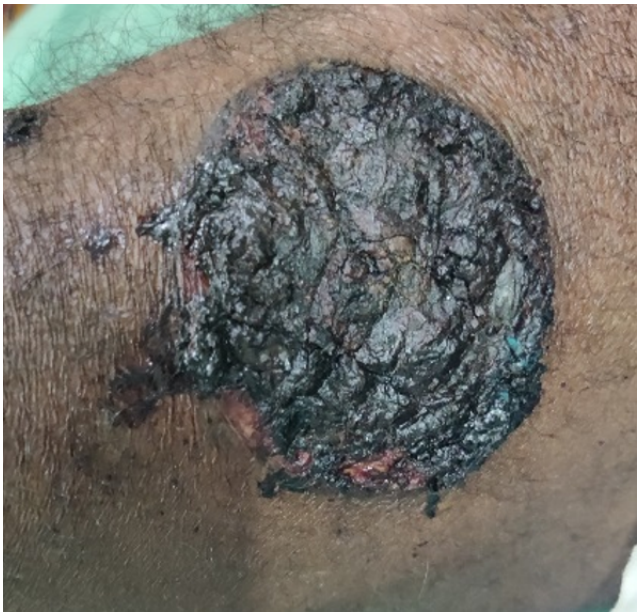

Fig. 3: Circular skin lesion with hemorrhagic crusting and necrotic margins

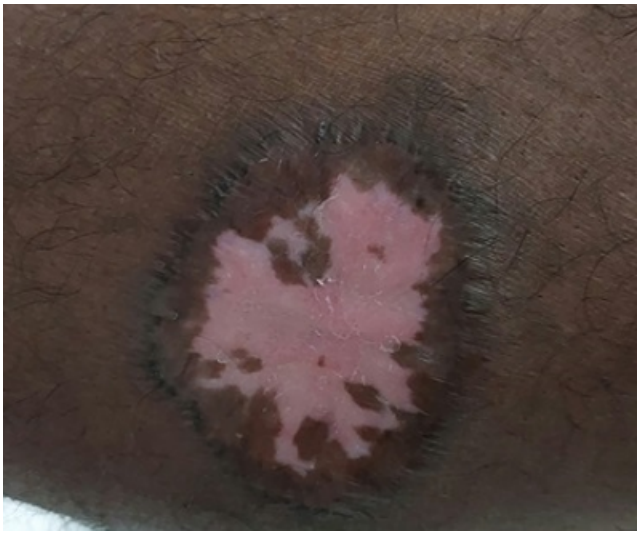

Fig. 4: Resolution of skin lesions on follow up

3. Discussion

Pyoderma gangrenosum is a neutrophilc dermatosis without a clear etiology and a diagnosis of exclusion. It begins as pustule or a vesicopustule and progresses to an ulcer with suppuration. It can be associated with numerous conditions like inflammatory bowel disease and other autoimmune disorders as well as hematological malignancies.[1] They can be drug induced too.[3] There are 10 reported cases of pyoderma gangrenosum associated with tuberculosis at various sites. They include testicular TB,[4] abdominal TB,[5] osteoarticular,[6] TB lymphadentis,[1,3] pulmonary TB.[6–8]

disseminated TB(8). Our case being tuberculous pleural effusion further adds to the this limited list of case reports of tuberculosis being associated with pyoderma gangrenosum.

As pyoderma gangrenosum is a diagnosis of exclusion when it occurs in the setting of tuberculosis it becomes very important to differentiate it from cutaneous TB, ATT induced drug rash and exclusion of all other conditions like coexisting malignancy and autoimmune disorder. This is also one of the many conditions in tuberculosis where immunosuppressant are used along with ATT and thus requires careful monitoring.

4. Conclusions

In pyoderma gangrenosum apart from looking for chronic inflammatory conditions and malignancies a detailed work up to exclude any form of TB should be helpful given the high prevalence of TB in India. Further research needs to direct to help making a diagnosis and establish association between these two clinical entities.

5. Acknowledgements

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6. Conflict of Interest

The authors declare no conflict of interest.

7. Source of Funding

None.

References

1. Ollivier C, Bernigaud C, Bonsang B, Ortonne N, Nebbad B, Lepeule R. Pyoderma gangrenosum et tuberculose : une association méconnue. *Ann de Dermatol et de Vénéréologie*. 2019;146:A285. doi:10.1016/j.annder.2019.09.465.
2. Kadiri SE, Elloudi S, Douhi Z, Baybay H, Mernissi FZ, Douida A, et al. Pyoderma Gangrenosum and Multifocal Tuberculosis: Is it a True Association? *Sci J Clin Res Dermatol*. 2021;6(1):4–6.
3. Zaraa I, Hawilo A, Hassine SB, Chelly I, Haouet S, Mourad M, et al. Pyoderma Gangrenosum and lymph nodes tuberculosis disease: unusual association. *Dermatol Rep*. 2011;3(1):e8. doi:10.4081/dr.2011.e8.
4. Botella FA, Somovilla JP, Aguilar JS, Alcaine JT, Valverde AR, Hernandez JC, et al. Pioderma gangrenosum asociadoa tuberculosis testicular. *An Med Interna*. 1989;6(10):549.
5. Kim NY, Choi JY, Lee KH, Shin JW. Pyoderma gangrenosum in a patient with colonic tuberculosis. *Am J Gastroenterol*. 1994;89(8):1257–9.
6. Nanoudis S, Tsona A, Tsachouridou O, Morfesis P, Loli G, Georgiou A, et al. Pyoderma gangrenosum in a patient with chronic granulomatous disease: A case report. *Medicine (Baltimore)*. 2017;96(31):e7718. doi:10.1097/MD.0000000000007718.
7. Matsui M, Ohtoshi E, Yamaoka J, Matsuyoshi N, Ohta K, Toda K, et al. Cutaneous tuberculosis and pyoderma gangrenosum. *Int J Dermatol*. 2000;39(1):38–40. doi:10.1046/j.1365-4362.2000.00843.x.
8. Romańska-Gocka K, Ciecińska C, Zegarska B, Schwartz RA, Cieciński J, Olszewska-Słonina D, et al. Pyoderma gangrenosum with monoclonal IgA gammopathy and pulmonary tuberculosis. Illustrative case and review. *Postepy Dermatol Alergol*. 2015;32(2):137–41. doi:10.5114/pdia.2014.40974.

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