Cold cellulitis: An unusual presentation of leprosy

The presentation of leprosy plays an important role in it's identification. The features of the disease determine how it is clinically approached and diagnosed. Leprosy has diverse types of presentations. They are commonly calm and insidious.[1] Not all lepers enter the clinics with leonine facies and classic lesions. This report is an example where we were initially misguided by its acute inflammatory presentation which mimicked cellulitis, until the proper diagnosis was established. A 42 year old Indian male was admitted to the surgical ward as a case of facial cellulitis of 2 weeks duration. The lesion started on the right eyebrow and extended to the right forehead, the right eyelids and the right cheek. There was no history of insect bite, trauma or pre-existing lesion. He had been working as a farmer for the last one year under compromised physical and psychological conditions. On examination, the patient was afebrile, with a large tense erythematous swelling involving the entire right side of his face and almost closing his right eye. The lesion was slightly warm and mildly tender. But interestingly this was disproportionate to its large size and angry looking appearance (Figure 1). Orange peel sign was noticed on the right cheek. There were no ulcerations or palpable lymph nodes. Hemoglobin was 15.3, white blood cell count 5700, neutrophils 65%, lymphocytes 26%, eosinophils 4%, and monocytes 5%. Erythrocyte sedimentation rate was 18mm in the first hour. Biochemical parameters were all normal. X-rays of the skull, sinuses and chest were normal. Ophthalmologic, ear, nose and throat and dental consultation were sought and no apparent cause for acute inflammation was found. The patient was put on cefuroxime 500mg 6 hourly with metronidazole 500mg 8 hourly for one week but without any benefit. Anti-allergic treatment (chlorpheniramine maleate) was also tried but failed. Considering the odd behavior of the lesion, the nationality of the patient and the failure of response to antibiotics, the possibility of leprosy was considered. Skin smears from the lesion on the face and ear lobule were negative for acid-fast bacilli (AFB). So a skin biopsy was performed which revealed occasional numbers of AFB (bacterial index 1+) with histopathological features compatible with borderline leprosy (Figure 2). This would have been a clear case of cellulitis considering the short history and clinical point of view. But it lacked certain features such as: (i) No history of insect bite, trauma or erosion which could have served as an inciting factor (ii) No constitutional symptoms of bacterial infection like pyrexia, (iii) Absence of local symptoms like pain (iv) Normal hematological parameters (v) Absence of response to antibiotics and anti-allergic therapy. These very factors lead us to think about "cold cellulitis" and search for the possibility of leprosy, which was ultimately confirmed.

Review of the various presentations of leprosy shows that a few hypopigmented or erythematous macules with intact sensation and hairs may be the clinical presentation of indeterminate leprosy.[1] Commonly the presentation may be an area of numbness with or without a visible lesion.[2] Alternatively the presentation may be that of the classical types of leprosy (lepromatous, borderline or tuberculoid), of which borderline is the most common type encountered.[3] Occasionally leprosy may present with weakness, blister, burn, or an ulcer in an insensitive hand or foot.[3,4] Also it may present with a reaction such as sudden palsy, febrile illness, eye pain or new skin lesions.[5] Occasionally edema of the hands, feet and face are the only presenting features.[3] This review shows that a solitary area of

Figure 1 - Facial cellulitis in leprosy, with minimal pain or tenderness.

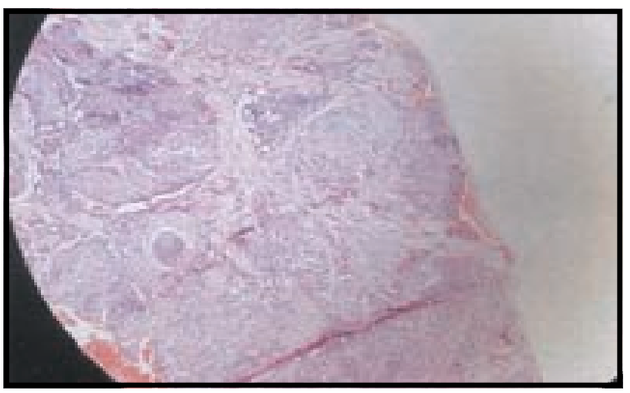

Figure 2 - Clusters of lymphocytes, epitheloid cells and occasional acid fast organisms seen. (Hematoxylin & Eosin staining).

cellulitis like lesion has not been reported as a presentation of leprosy before. Although lepra reaction causes acutely inflamed lesions, they are multiple (old inflamed lesions plus the new ones) rather than a single lesion as in our case. The overall picture suggests that this patient developed type 1 reaction and might have been an unknown leper before, possibly of unnoticed borderline tuberculoid type. When subjected to hard stressful physical and psychological conditions his disease flared up and he moved towards the lepromatous pole in a down grading reaction. However, presenting with a solitary inflammatory lesion is atypical and worthy of reporting.

In conclusion, borderline leprosy may present with acute onset as atypical acute cellulitis, which we have labeled here as "cold cellulitis". It differs from the classic cellulitis by the absence of the various features of inflammation. In such a situation bacteriological and histopathological means should be sought to confirm the diagnosis. Awareness of this unusual presentation may help in early diagnosis and treatment.

References

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