

# Tuberculous Gumma (Cutaneous Metastatic Tuberculous Abscess) With Underlying Lymphoma

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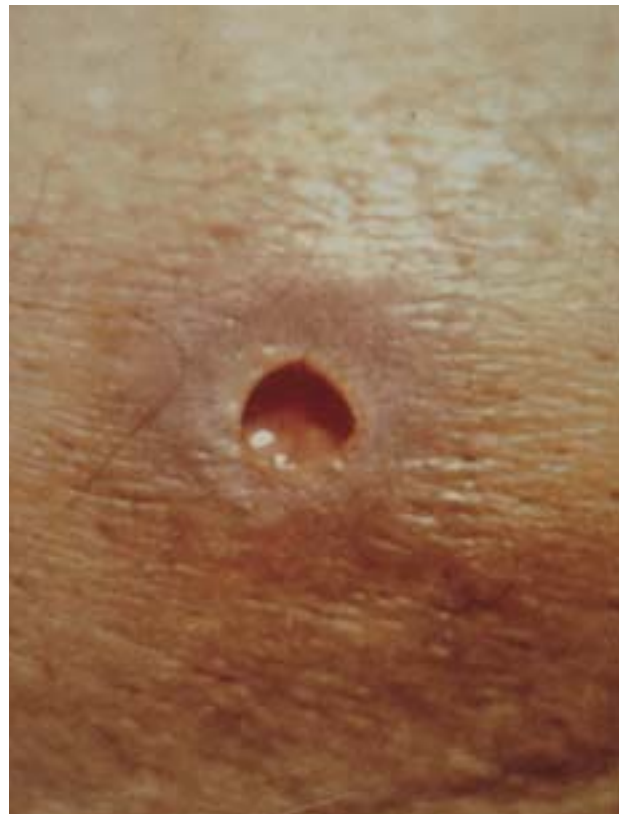
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*Cutaneous tuberculosis is an infrequent first sign of disseminated tuberculosis. We describe a patient with 2 cutaneous ulcerations that grew Mycobacterium tuberculosis. Despite an initial response to antimycobacterial therapy, the fever relapsed. After several months, biopsy of a single cervical lymph node showed a T cell-rich B cell lymphoma. Our patient had metastatic tuberculous abscesses (tuberculous gummas), which are secondary to disseminated tuberculosis, and an underlying occult lymphoma, both believed to be sequentially presenting as a fever of unknown origin.*

The cutaneous manifestations of disseminated tuberculosis are uncommon and are seen in less than 0.5% of cases.<sup>1-3</sup> One manifestation is the tuberculous gumma or metastatic tuberculous abscess. Tuberculous gumma may break down to form fistulas and ulcers. In our case, the metastatic tuberculous ulcer was seen in association with an underlying T cell-rich B cell lymphoma.

## Case Report

A 72-year-old man born in the Indian subcontinent was seen for intermittent fever of 12 months' duration. Three months previously he developed painless papules on his right forearm and perineum, which in a few days became ulcerated with scanty serous discharge. He had been evaluated on 2 prior hospitalizations for the same problem, but no diagnosis had been rendered. He had a weight loss of about 20 pounds in



**FIGURE 1.** Tuberculous gumma, a cutaneous ulcer with undermined edges, forearm.

the past year. He was a retired farmer and denied travel to any area endemic for leishmaniasis.

On physical examination, the patient was a well-nourished man with an oral temperature of 37.8°C. Other findings included mild pallor and a 0.5 × 0.5-cm, nontender ulcer on the right forearm with undermined edges and serous discharge (Figure 1). The lungs were clear to auscultation and percussion; the

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cardiovascular system examination did not show any abnormalities. The liver was palpable 6 cm below the right costal margin with a 14-cm span in the mid clavicular line and a smooth edge. It was nontender and nonpulsatile. The spleen was enlarged 8 cm below the left costal margin. An ulcer similar to that on the right forearm was also present in the perineum. The neurologic and musculoskeletal examinations were normal.

The white blood cell count was 6800/mm<sup>3</sup> (neutrophils, 61%; lymphocytes, 22%; monocytes, 13%; eosinophils, 3%; and basophils, 1%); hemoglobin, 6.02 mmol/L (9.7 g/dL); hematocrit, 28.6%; platelet count, 89,000/mm<sup>3</sup>; mean corpuscular volume, 73.1 fl; RDW, 16.3%; erythrocyte sedimentation rate, 63 mm/h; normal SMA7; alkaline phosphatase, 318 units/L; total bilirubin count, 13.68 mol/L (0.8 mg/dL); AST (serum glutamic oxaloacetic transaminase), 1.2 Kat/L (72 units/L); ALT (serum glutamic pyruvic transaminase), 0.8 Kat/L (49 units/L); CD4, 349/L; and CD4/CD8, 0.95. Results for human immunodeficiency virus testing were negative. The peripheral smear showed microcytes, poikilocytes, and a few ovalocytes. The roentgenogram of the chest was normal. Further evaluation showed sterile blood cultures, a nonreactive venereal disease research laboratory result, and negative smears for malaria parasites. Induced sputum samples were negative for acid-fast bacilli on 3 occasions. A Mantoux test was nonreactive at 48 hours. A smear from the undermined edge of the ulcer on the forearm and another one from the perineal ulcer both showed 4+ acid-fast bacilli.

Cultures of ulcer specimens at 6 weeks grew *Mycobacterium tuberculosis*, sensitive to isoniazid, rifampin, ethambutol, and pyrazinamide. The bone marrow aspirate was normocellular with normal myeloid maturation, mild megaloblastic changes, and adequate megakaryocytes and was reported as a reactive marrow consistent with infection or early myeloproliferative changes. The bone marrow biopsy showed normocellular marrow with normal iron stores and a single noncaseating epithelioid cell granuloma. Ultrasound of the abdomen showed evidence of hepatomegaly and splenomegaly with areas of focal calcification consistent with granulomatous disease. He was treated with rifampin, ethambutol, isoniazid, and pyrazinamide. One week later, he was afebrile, and on a follow-up outpatient visit he remained afebrile while the liver and spleen had regressed.

After 2 months, the patient presented with intermittent fevers, despite adequate antimycobacterial therapy (administered by family members under supervision). He was readmitted; the skin lesions on the forearm and perineum had healed. However, the

liver and spleen sizes had increased. These bouts of fever were high grade and lasted 3 to 10 days with remissions for 3 to 5 weeks. A thorough evaluation for sepsis during this admission failed to reveal any source of infection. On the final admission in October 1994 the patient developed a small cervical node of 1 cm × 1 cm, which was firm in consistency. This was biopsied; pathologic diagnosis was a T cell-rich B cell lymphoma. The patient decided not to start any further therapy and returned to India.

## Discussion

Tuberculosis with cutaneous ulcers culture positive for *M tuberculosis* may result from the hematogenous dissemination from a primary focus during a period of lowered resistance and mycobacterium tuberculous bacillemia.<sup>1,3</sup> They have been most often described in undernourished children and immunocompromised patients.<sup>3</sup> In our patient, the sequence of the skin lesion from a papule to the formation of an ulcer resembled that of primary inoculation tuberculous chancre.<sup>4</sup> However, this would be unlikely as the latter mandates both primary inoculation and absence of any other tuberculous focus in the body. The lesions in our patient could not be classified as tuberculids, in view of positive cultures from the skin lesions,<sup>5</sup> although in rare cases isolation of mycobacterial DNA has been shown in tuberculids.<sup>6</sup> Our patient's ulcers are best classified as tuberculous gummas or metastatic tuberculous abscesses, lesions that usually appear as nodules or subcutaneous abscesses not only in progressive organ tuberculosis and miliary tuberculosis but also without an evident underlying focus, due to presumed silent bacteremia from pulmonary tuberculosis.<sup>7-13</sup>

The clinical and pathologic lesions seen in cutaneous tuberculosis form a wide spectrum of clinical entities, ranging from scrofuloderma to lupus vulgaris.<sup>14</sup> Scrofuloderma represents patients with low immunity, minimal reaction to purified protein derivative, and a large number of lesional mycobacteria with a small to moderate number of lymphocytes in the granuloma. At the other end of the spectrum is lupus vulgaris, demonstrating high immunity, significant reaction to purified protein derivative, absent or scant tuberculous bacilli in lesions, and often negative cultures. Our patient seems to be near the scrofuloderma end of the spectrum. Cutaneous tuberculosis associated with immunosuppressed patients including those with AIDS has also been described,<sup>1,15,16</sup> with a cutaneous-pericardial tuberculous fistula also capable of producing a cutaneous ulcer.<sup>1</sup>

Disseminated tuberculosis is an important cause of fever of unknown origin (FUO). In one series, tuber-

culosis comprised one third of all cases of infection as a cause of FUO.<sup>17</sup> Occasionally, extrapulmonary tuberculosis such as gastric, genitourinary, and splenic tuberculosis can produce an FUO. In enigmatic patients with FUO, a liver biopsy specimen, gallium-67 citrate scan, technetium-99 sulfur colloid scan, computed tomography scan, ultrasound, and rarely exploratory laparotomy can be judiciously used to confirm the diagnosis. Elevated erythrocyte sedimentation rate and alkaline phosphatase may provide helpful clues for the diagnosis of tuberculosis as a cause of FUO.<sup>18</sup>

T cell-rich B cell lymphoma is an intermediate grade lymphoma, also known as diffuse mixed malignant lymphoma.<sup>19</sup> It is characterized pathologically by the presence of large monoclonal B cells and phenotypically normal T cells.<sup>20</sup> It is often diagnosed in an advanced clinical stage with occult disease in liver, bone marrow, and extranodal sites.<sup>21</sup> Cutaneous tuberculosis has been reported as a rare presentation of malignancy.<sup>22</sup> The coexistence of malignant lymphoma and miliary tuberculosis<sup>23</sup> and lymphoma complicated by cutaneous tuberculosis have been described.<sup>24</sup>

This case further illustrates tuberculosis as an important cause of FUO and that a poor response to proper treatment should initiate a search for another underlying process. This is the first report to our knowledge describing cutaneous gummatous tuberculosis and an underlying T cell-rich B cell lymphoma.

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