Denouement and Discussion

Scrofuloderma With Lupus Vulgaris

The result of tuberculin skin testing was positive, with a 20 × 25-mm induration associated with vesiculation. The sputum examination result for acid-fast bacilli was negative. Puas aspirated from the cold abscess, and a smear from the ulcers did not reveal any mycobacteria on Zielh-Neelsen acid-fast stain; however, a biopsy specimen from the skin lesion and sinususes revealed tuberculous granulomatous infection. Routine culture eventually grew Mycobacterium tuberculosis, and the patient was diagnosed as having scrofuloderma (SCD) and lupus vulgaris (cutaneous tuberculosis). He responded well to drainage of cold abscesses and standard antimycobacterial drug therapy, composed of isoniazid, rifampicin sodium, pyrazinamide, and ethambutol hydrochloride.

The incidence of cutaneous tuberculosis, which forms a minute proportion of extrapulmonary tuberculosis, has decreased from 2% to 0.15% in India.1 In the West, it is rarely encountered. Lupus vulgaris, SCD, tuberculosis verrucosa cutis, tuberculous gumma, tuberculosis, tuberculids, tuberculous chancre, acute miliary cutaneous tuberculosis, and orificial tuberculosis constitute the diverse forms of cutaneous tuberculosis.2-4 A patient may have a combination of 1 or more types of cutaneous tuberculosis.2-4 Cutaneous tuberculosis arises as a result of external inoculation, underlying tuberculous pathological features, or hematogenous/lymphatic spread from visceral tuberculosis.2-4 Common locations for cutaneous tuberculosis are the head, neck, supraclavicular fossae, axilla, groin, extremities, trunk, and buttocks.3-5 There is a general consensus that lupus vulgaris and SCD are the most common types.2-7

Scrofuloderma is more common in children and younger individuals than in adults.1,2,3,6 It develops as a result of skin breakdown overlying tuberculous foci, such as an infected lymph node, bone, or joint, and manifests as gradually enlarging, painless, subcutaneous nodules that ulcerate with the development of sinus tracts in the overlying skin. In contrast, lupus vulgaris presents with small, reddish brown, sharply marginated papules and plaques that enlarge by peripheral extension and leave areas of central atrophy. They may be seen in plaque, ulcerative, vegetative, and nodular forms. The association of cutaneous tuberculosis with systemic pulmonary disease is variable. In the literature reviewed,2,6,7,9,10 the incidence of pulmonary tuberculosis in patients with SCD and lupus vulgaris varied between 0% and 16% during the past decade.

While M tuberculosis is the causative agent in most affected patients, atypical mycobacteria, such as Mycobacterium scrofulaceum and Mycobacterium avium, may be the cause in immunocompromised patients.1

The differential diagnosis also includes chronic nonspecific granulomatous infections; cervicofacial actinomycosis; deep fungal infections, such as cutaneous blastomycosis and coccidioidomycosis; and, rarely, Hodgkin lymphoma infiltrating the skin.

Auramine-rhodamine fluorescent stain is more sensitive than Zielh-Neelsen acid-fast stain in detecting mycobacteria. Routine culture using Lowenstein-Jensen medium is time-consuming and is being replaced by radiometric broth culture, which reduces the bacterial recovery time of 3 to 4 weeks by half. A polymerase chain reaction amplification technique, although expensive, is a rapid and sensitive method for early diagnosis of pediatric tuberculosis.11,12

Standard multidrug antituberculous chemotherapy remains the gold standard of treatment. In India, per the Revised National Tuberculosis Control Programme, the directly observed short-course chemotherapy strategy (DOTS), a globally accepted short-course treatment for all forms of tuberculosis, is followed.1 In the initial intensive phase of treatment, isoniazid, 10 to 15 mg/kg; rifampicin, 10 mg/kg; pyrazinamide, 15 to 30 mg/kg; and ethambutol, 15 to 25 mg/kg, are given 3 times a week on alternate days for 2 months, while in the immediate continuation phase, isoniazid and rifampicin are given in the same doses 3 times a week for 4 months. DOTS has the advantage of directly supervised treatment that increases the cure rate, decreases transmission of disease, and prevents emergence of multidrug-resistant tuberculosis while minimizing adverse effects due to drugs. In SCD resulting from tuberculous lymphadenitis, arthritis, or osteomyelitis, surgery in the form of aspiration, incision and drainage, debridement, curettage, and partial or total excision of the cold abscesses and underlying pathological lymph nodes or ribs may be necessary. Surgery in excisional biopsy is essential in patients with persistent residual disease despite the full course of chemotherapy or in instances of infection by atypical mycobacteria, in which the response to conventional chemotherapy is poor.

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