

Foreign Body Granuloma

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Abstract

Penetration of foreign bodies may present a diagnostic challenge to the surgeon. The foreign body granuloma is a biological response of tissue to any foreign body in the tissue. The pathway of arriving to the diagnosis of foreign body granuloma becomes difficult when patient presents with non specific symptoms such as pain/ swelling, and in history- no recollection of previous trauma. It can be of two types-

- a) Iatrogenic gossypiboma by retained surgical sponge intra-operatively
- b) Granulation by a penetrating foreign body such as wooden splinter or other materials. -The most frequent reported injury is to hand, thigh, knee and feet; these may be limited to soft tissue or may be intra articular. The time and type of presentation varies according to the immune status of the individual. In cases, where history of trauma is uncertain, the presentation is very late and the radiographic appearance may be confusing - Median time of presentation: 4 months to 20 years [1].

Keywords: organic foreign body, trauma, granuloma

Introduction

The microscopy is indicative of macrophages, multinucleated foreign body giant cells (macrophage fusion), fibroblasts and angiogenesis. If the foreign body is not removed immediately, it becomes encapsulated with fibrous tissue and forms a granuloma.

Case Report

The etiology of penetration wounds of foot may be varied, from thorns to fragments of wood and usually it remains masked due to its late presentation clinically. The differential diagnosis for bony reaction to an unrecognised organic foreign body can be acute and chronic osteomyelitis, bone cyst, cortical fibrous defect, pyogenic granuloma, thigh abscess and neoplasm. We present a case of old, female who presented with a swelling over right thigh since 2 years.

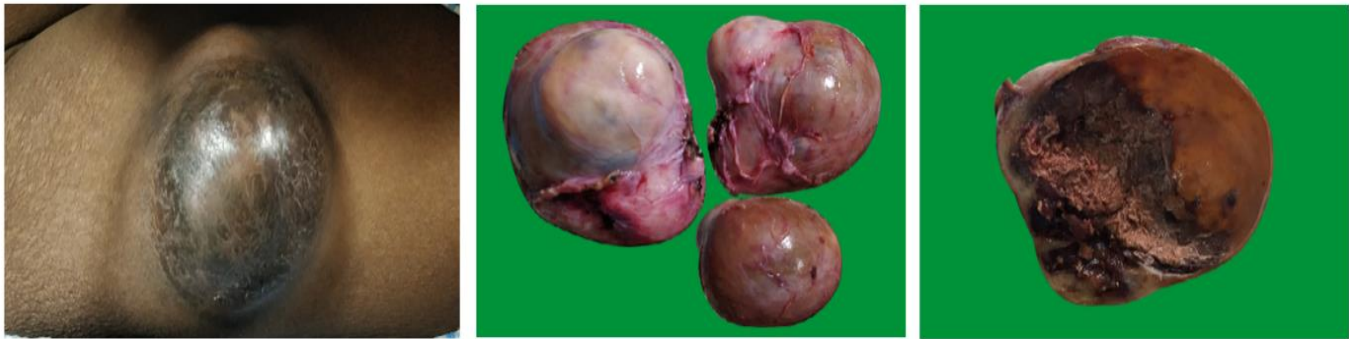
A 45-year-old female presented with progressive swelling in the dorsolateral aspect of right thigh since 2 years. The swelling increased in past six months and was not associated with pain. She could recall no history of trauma. Physical examination showed a healthy patient with a mass on the dorsolateral region of the right thigh measuring 6 cm *8cm *3 cm (l*b*h) in diameter.

The overlying skin was intact, hyperpigmentation of skin was evident, fluctuant, nontender, temperature was not raised and swelling was in subcutaneous plane. The mobility in horizontal direction was more than in the vertical direction. No discharge was present. Plain radiograph of the thigh showed soft tissue swelling but no marginal irregularity and tissue planes were preserved; the femur was not involved. CT showed soft tissue swelling with collection [2].

The patient was prepared and promptly operated. At surgery a thick-walled cyst was found within the anterior compartment of the thigh containing serous non-offensive fluid. The cavity was cleaned out and the biopsy tissue of the wall was taken for histology. The excision biopsy specimen was suggestive of cystic lesion with solid component.

She had a normal white-blood-cell count, a normal C-reactive protein level, and an erythrocyte sedimentation rate of 18 mm/hr. Tuberculosis work up was negative (tuberculin skin test, sputum examination, and standard thoracic X-ray). Histologically, cystic lesion with foreign body giant cell granuloma was confirmed.

Post-operative recovery was uneventful. The patient has been followed up for 2 months and has remained without symptoms.



Discussion

Foreign body granulomas can mimic malignancies, especially when the history and unusual location pose a diagnostic dilemma even in the absence of a definite history of trauma, an organic foreign body lesion should be considered in the differential diagnosis of a “swelling”, so that unnecessary delays can be avoided. Surgical exploration of a granuloma must include the deeper tissue planes, under appropriate antibiotics and anti tetanus cover so that any foreign body is not missed.

The incidence of foreign body granuloma in the anterior thigh compartment of a female following an injury to the anterior compartment is not common in literature. In this case, inadequate initial wound care which did not include wound exploration. Vigilant wound exploration under anesthesia would have revealed the remnant foreign body during the initial management and thus prevented the late presentation [3].

The swelling was not complicated by abscess or tenderness which when present would be associated with complaints of pain.

Plain radiography and ultrasonography did not reveal the foreign body. Organic materials and plastics, on the other hand, are diagnostic challenges because they do not show up on plain radiographic films. The effects of plant thorn in soft and bony tissues include foreign body granuloma and cyst, bursitis, tenosynovitis, synovitis, monoarthritis, and bone lesions that may mimic a tumor.

If a history of antecedent skin puncture is not recognized and if the foreign body is radiolucent, the radiograph appearance of the bone reaction can be confusing and can even mimic a neoplasm. Ultrasonography is sensitive and specific for detection and localization of foreign body which should be included in evaluation for clinically suspicious retained nonradiopaque foreign body in soft tissue of extremities. Excision of the foreign body allows symptomatic and radiographic cure [4].

Retained non radiopaque foreign body inside soft tissue can be a cause of prolonged morbidity. Detection and localization is a difficult task with conventional radiography.

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