A Case Of Dermatomyositis With High Calcium Discharge From Skin Nodule

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Abstract : We describe a case of 46 years lady with dermatomyositis and calcinosis cutis showing extensive subcutaneous nodules with fluid discharge. The discharge fluid contained very high calcium concentration. X-ray of the subcutaneous nodules showed calcification of soft tissue. USG of spleen showed foci of vascular calcification. [Patel N et al NJIRM 2013; 4(3) : 159-161]

Key Words: Dermatomyositis, calcification, Nodule, calcium

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Case: A 42 years lady presented with chief complains of skin nodules all over body and joint pain for last last 6 years. The nodules had a cycle of growth followed by liquefaction, discharge and local scarring with pitting of skin mainly over forearm and hand and buttocks. In addition there was photo-sensitivity, positive Raynaud's sign, heliotrope rash, malar rash, palmer erythema, positive gottron's sign ,nail fold telengiectasia , multiple punched out atrophic scar over both forearms, diffuse hair loss, hyerpigmented indurated plaque over medial side of both forearm.

X-ray of arm/forearm showed soft tissue calcification. Sonography of abdomen showed foci of vascular calcification of spleen and mild hepatomegaly with fatty changes.

Material and Methods: We report a dermatomyositis with calcinosis cutis with skin lesion discharge. The discharge was analyses by the clinical biochemistry laboratory at New civil Hospital ,Surat for its calcium content with ERBA-XL 640 fully automated chemistry analyzer with O-cresolphthelin complexone method.

Result: Nodule discharge was diluted 1:10 with 50 mmol/L HCl. As the initial concentration of calcium found in the 1:10 diluted nodule discharge was higher than linearity limit, it was serially diluted with water till the result obtained with diluted sample was within linearity limit. The sample required 100 times dilution and the discharged fluid calcium was 1150 mg/dl. The serum calcium was 8.7 mg/dl.

Discussion: Dermatomyositis, an idiopathic inflammatory myopathy with characteristic skin manifestations. It is a most common among idiopathic inflammatory myopathies[1]. Although heliotrope rash and Gottron's sign are specific cutaneous features, calcinosis of the skin or subcutaneous tissues is unusual in adults with dermatomyositis. Calcinosis is more common in juvenile dermatomyositis than in the adult-onset form[2,3]. Calcinosis may occur in up to 40 percent of children or adolescents with dermatomyositis[4].

Figure:1 Firm erythematous whitish nodules

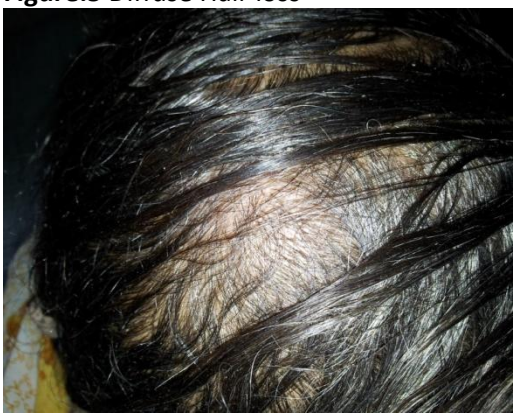
Figure:2 Multiple punched out atrophic scar over both forearms

Calcinosis is a disorder characterized by amorphous calcium phosphates deposited in soft tissues, including the skin in presence of normal serum calcium[5,6]. Depending on the pathophysiologic mechanisms, calcinosis cutis has been classified as metastatic, dystrophic, idiopathic, or iatrogenic .Calcinosis of dermatomyositis is generally the dystrophic type, occurring in the setting of normal calcium metabolism. Several theories are suggested for dystrophic calcinosis in dermatomyositis , but the exact etiology remains unknown[7] . One of the theories suggests that tissue necrosis caused by inflammation or injury may result in release of alkaline phosphatase from damaged lysosomes [8,9]. Alkaline phosphatase releases inorganic phosphate from organic phosphate thus allowing calcium phosphate precipitation[7].

Figure:3 Heliotrope rash

Figure:4 Gottron's papules and Nail fold telengiectasia

Figure:5 Diffuse Hair loss



In adults, calcification often presents as firm dermal or subcutaneous nodules, most prominent around sites of repeated microtrauma, such as elbows, knees, buttocks, and hands. Calcification of the muscles is generally asymptomatic and is only observed by means of radiological assessment[2]. Complications of calcinosis cutis include pain, cosmetic disfigurement, persistent ulceration with infection, and mechanical compromise[3].

Conclusion: Normal serum calcium and high calcium in discharge fluid is suggestive of dystrophic calcification in this patient of dermatomyositis.

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