

Subcutaneous Granuloma Annulare

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Granuloma annulare is a benign, self-limiting dermatosis that was first described in 1895 by Colcott Fox. Subcutaneous granuloma annulare (SGA) is a subtype of granuloma annulare that primarily affects children. Among various names used to describe SGA are deep granuloma annulare, necrobiotic granuloma annulare, subcutaneous palisading granuloma, benign rheumatoid nodule and pseudorheumatoid nodule. Its occurrence was associated with preceding trauma, sun exposure, insect and arthropod bites, bacterial and viral infections, tuberculosis, healing tuberculin skin test, connective tissue diseases, sarcoidosis and insulin-dependent diabetes, but its etiology is unknown. Trauma appears to be the most probable reported association in children with SGA.^{1,2} Our patient also had a suspicious trauma history.

SGA occurs at any time from infancy to young adulthood. It most frequently occurs in children between the ages of 2 and 6 years. It is reported more frequently in girls. Multiple lesions have been presented in the literature. Most SGA lesions are located on the extremities and head as subcutaneous nodules. The rapidly growing nodules may be slightly mobile or fixed to the underlying periosteum or bone. The epidermis overlying the nodules is normal in color and in 25% of cases they are associated with superficial papules. Arthritis does not usually occur in children with these nodular lesions. Children are usually healthy with no other abnormal physical or laboratory findings.^{2,3} Our case was also a 5-year-old girl and her physical examination was normal except for the nodules on the palm of her left hand.

Features of SGA seen on images obtained with other modalities have also been described. Conventional radiography demonstrates a nonspecific soft tissue mass without calcification or bone involvement. The lesions were noted to be hypochoic in sonography. No intralesional doppler signals were detected. In magnetic resonance imaging (MRI), lesions are localized to the subcutaneous tissues without calcifications, showing low to intermediate signal intensity on T1- and T2-weighted MRI, with no extension

deep to the fascia or involvement of the underlying bone.⁴ In our patient, MRI show poorly-defined soft tissue tumor in the subcutaneous fat along the palmar aspect of the left thenar area.

Histologically, SGA is characterized by palisading histiocytes and lymphocytes around focal centers of necrobiotic collagen and mucin with intervening areas of normal dermis. Eosinophiles are frequently seen in the inflammatory cells surrounding necrotic centers in SGA.²

Diagnosis of SGA has been difficult because the history of rapid growth and multiple recurrences can mimic a malignant lesion. Differential diagnosis for SGA includes digital fibromatosis, xanthomas, rheumatoid nodules, rheumatic fever nodules, necrobiosis lipoidica, soft tissue tumors such as epithelioid sarcoma, rhabdomyosarcoma, giant-cell fibroblastoma, fibromatosis, plexiform fibrohistiocytic tumor, and malignant fibrous histiocytoma, bone tumours and calcified haematomas.^{2,5} Magnetic resonance imaging may be useful for differential diagnosis.⁴ Nonetheless, the definitive diagnosis of SGA should be based on histopathology, not on clinical appearance.

The prognosis is good and treatment of SGA is generally not necessary. Lesions tend to be self-limiting although relapse, generally at the same location, has been reported after months or years in 19% to 75% of the cases. Intralesional or topical steroids represent the most widely used and accepted therapy.^{3,5} We applied a highly potent topical steroid under occlusion and the lesions had decreased in size at the 1-month follow-up visit.

We reported a case of SGA as painless nodular lesions of the palm of a child. Although SGA often affects the hands and the fingers palmar involvement is very rare.⁵ The differential diagnosis of subcutaneous nodular lesions of the palm in children is problematic. Palm nodules in children should be considered for the diagnosis of SGA, especially if there is a history of trauma. If a definitive diagnosis is needed, then MRI and a biopsy should be performed. Excision or systemic treatment should be avoided because spontaneous resolution is typical. Surgery is only indicated if the lesion is so situated as to interfere with function.

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