Case Report

Digital cold panniculitis: A winter malady!

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ABSTRACT

The panniculitides include a group of heterogeneous disorders of varied aetiology that manifest as inflamed nodules in the subcutaneous tissue. Few forms of panniculitis namely subcutaneous fat necrosis exclusively affects newborns whereas other types affects adults and paediatric group equally. These lesions may appear secondary to some systemic illness or following external insult. We report a child presenting with panniculitis lesion involving all the digits of his hands following exposure to cold.

Key words: Panniculitis, Thermal Injury, Self-Limiting, Cold Avoidance

Panniculitis refers to disorders involving inflammation of the subcutaneous fat which presents as inflammatory nodules and plaques [1]. Although it is a common entity, yet most of the time clinicians struggle to recognise them. They can be primary or secondary to some systemic illness like streptococcal infections, tuberculosis, external insults (cold exposure, trauma), malignancy and connective tissue disorder like such as systemic lupus erythematosus and dermatomyositis [1]. Insulin induced panniculitis have also been reported among patients of juvenile type 1 diabetes mellitus [2].

Some forms of panniculitis namely subcutaneous fat necrosis of newborn, sclerema neonatorum, post steroid panniculitis and cold panniculitis are seen exclusively in children. Infantile and childhood panniculitis usually do not require any investigation and specific management. These lesions are self-limiting and they resolve spontaneously. Knowledge and prompt identification of cold panniculitis lesions is important for all practitioners, especially those who serve in extreme cold environment in order to avoid unnecessary investigations and treatment. Herein we describe a child with panniculitis involving all the digits of his both hands following exposure to severe cold environment.

CASE REPORT

A 5 year old boy was brought to the authors with history of appearance of multiple erythematous nodular swellings on his fingers in both hands since 3 days. History of appearance of similar nodules in his toes in the previous winter and spontaneous resolution was provided by the father. On examination, multiple erythematous, indurated nodules were seen involving all the fingers of both hands. The nodules were minimally tender and did not demonstrate increased warmth. Evolving cellulitis, allergic reaction to any insect bite and traumatic injury to the fingers were initially suspected. However, there was no history of fever, insect bite or trauma to the fingers. Moreover, the appearance of these nodules coincided with the child's recent visit to his father who was working in Kohima in the winter

Figure 1: Clinical photograph of the child showing multiple, indurated nodules involving all the fingers of his both hands

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season when the daytime and night time temperature was as low as 9 and 4 degree celcius respectively. A clinical diagnosis of cold panniculitis was made based on the history of recurrent appearance of the lesions after cold exposure and spontaneous resolution and clinical examination. The child was advised to wear gloves and avoid cold exposure. The lesions subsided spontaneously without any sequelae.

DISCUSSION

Cold panniculitis falls within the ambit of panniculitis which refers to a group of conditions involving inflammation of the subcutaneous adipose tissue. It was first described by the Danish dermatologist, Holger Haxthausen, in 1941 [3]. It affects both the sexes equally. As the name suggests, it is frequently seen following exposure to cold. Such exposure can occur due to ambient cold environment [4], application of ice-packs for the treatment of supra ventricular tachycardia [5,6]and sucking of ice-cubes or popsicles (popsicle panniculitis) [7]. Infants and children are more prone to this form of panniculitis probably due to age related differences in fat composition. Usually seen on cold exposed areas, it appears on the cheeks, forehead and submental region in infants whereas in children, fingers are involved. Clinically, it appears as firm, indurated erythematous nodules or plaques with ill-defined margins. They can be sometimes tender to touch. The other conditions which can be considered in the differential diagnosis are allergic reaction to insect bite, local injury or cellulitis. Absence of history of fever, insect bite, pruritus and severe pain will exclude the above mentioned conditions.

Moreover on examination, the lesions will not be very tender or warm or pruritic. Histologically, it is a lobular form of panniculitis comprising of histiocytes and lymphocytes in the fat lobules. Intense inflammation is seen at the dermal-cutaneous junction and the inflammation involves both the lobules and interlobular septa [8,9]. The prognosis of these lesions is excellent with spontaneous resolution within a few weeks. No specific treatment besides dressing warmly is recommended to prevent or treat cold panniculitis. Similar lesions have also been reported in horse riders called horse riders pernio or equestrian panniculitis [10]. Although this phenomenon is seen in adults, exposure to cold during the winter months is the common precipitating factor. This rare entity was described by Beacham et al and more likely to occur in obese women [11]. Only a few patients have been reported to have experienced this phenomenon.

CONCLUSION

Although cold panniculitis is not a rare entity, yet most of the time clinicians struggle to recognise them. This is attributed to less awareness about this condition which might invite unnecessary investigations and medications which again might do more harm than good. Hence reporting of this case is imperative to spread awareness among the practitioners specially those who work at extreme cold environment so that they can reassure the parents and advise against cold exposure.

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