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HYPERSENSITIVITY VASCULITIS INDUCED BY STREPTOCOCCUS PNEUMONIAE

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A 10-year-old-female child with pneumococcal meningitis complicated by hypersensitivity vasculitis presenting as purpuric and ecchymotic lesions is reported.

Key Words : Pneumococcus, Hypersensitivity vasculitis, Purpura.

Introduction

Pneumococcus is a common cause of pneumonia. Metastatic infections by haematogenous seeding of distant suceptible sites can lead to pneumococcal meningitis, endocarditis, pericarditis, arthritis or ophthalmitis. Cutaneous lesions associated with S. pneumoniae are scarcely reported in the literature except reports which have documented cases of periorbital cellulitis with violaceous discoloration of skin in infants.[1]

We report here a case of hypersensitivity vasculitis induced by S. pneumoniae presenting as purpuric and ecchymotic lesiosn.

Case Report

A female aged 10 years admitted in paediatric unit for pyogenic meningitis caused by S pneumoniae, proved by CSF cytochemistry and culture was referred to skin OPD for skin lesions of 1 day duration. Cutaneous examination revealed purpuric and ecchymotic lesions over extremities (Fig 1). CNS examination revealed neck rigidity and positive Kernig's sign.

Routine haematological and coagulation profile values were within the normal limits. Blood culture and skin lesion (purpuric) sent for culture were bacteriologically sterile. Histopathological examination of biopsied specimen revealed findings suggestive of hypersensitivity vasculitis (Fig 2). Treatment with benzyl penicillin and gentamicin improved the condition of the child. By the end of 10th day repeat CSF examination was sterile

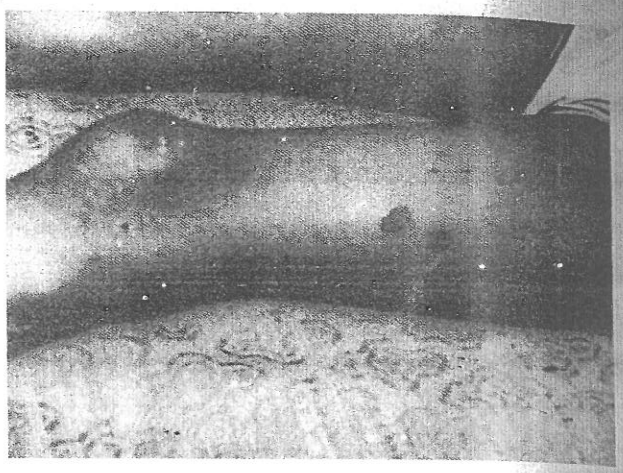

Fig. 1. Purpuric and ecchymotic lesions over thigh.

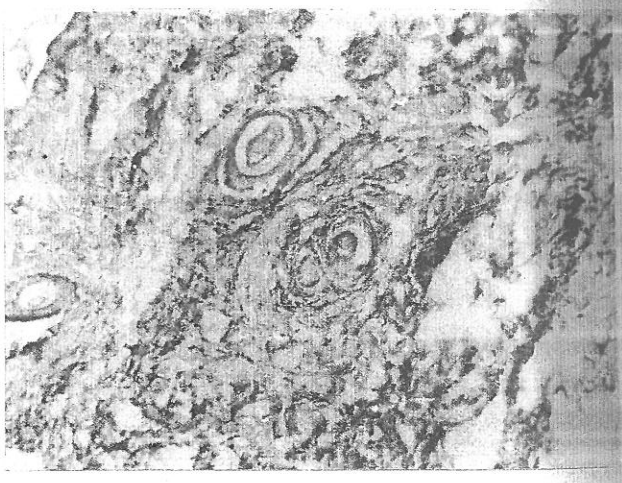

Fig. 2. The endothelial cells are swollen; the vessel wall is infiltrated by inflammatory cells; infiltrate largely composed of neutrophils (H and E x 100)

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bacteriologically with almost complete clinical improvement.

Comments

Cutaneous abnormalities are uncommon in most systemic bacterial infections with often unclear pathogenesis. Proposed mechanisms responsible for most lesions are bacterial induced vascular damage, vessel injury from immune reaction to the organisms, microbial production of a toxin that causes cutaneous disease and altered haemostasis induced by infection.[2]

In the present case the probable mechanism of appearance of purpuric and ecchymotic lesions can be explained by vessel injury from immune reactions. There is evident leucocytoclastic vasculitis histopathologically. Culture and stains of the skin lesions were negative bacteriologically, suggesting bacterial fragment provoking immunologic reaction that has caused vascular injury. Purpura is the common cutaneous manifestation of hypersensitivity vasculitis favouring dependent parts of the body as in the present case.

Purpuric lesions as part of purpura fulminans are reported in asplenic patients, who are at risk for pneumococcal sepsis.[3] Such phenomenon is ruled out in the present case because of normal coagulation profile and absence of any widespread intravascular coagulation histopathologically.

References

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