SEGMENTAL NEUROFIBROMATOSIS WITH ANGIOLIPOMAS

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A 28-year-old male had right axillary freckling, a few cafe-au-lait macules and numerous freckles over the right upper half of his body involving the scapular region, shoulder, chest wall, upper arm and proximal half of the forearm. Numerous, bilateral, subcutaneous nodules which could possibly be dismissed clinically as subcutaneous nodules of neurofibromatosis, proved to be angiolipomas histopathologically. It is suggested that in the absence of classical molluscum fibrosum, histopathology of subcutaneous nodules should always be resorted to in suspected cases of neurofibromatosis even when there are suggestive pigmentary changes.

Key words : Neurofibromatosis, Angiolipoma.

Neurofibromatosis has been estimated to occur in every 2500 to 3300 births.[1] Approximately 50% cases arise from spontaneous mutations. The skin, nervous system, bones, endocrine glands and sometimes other organs are the sites of a variety of congenital abnormalities, tumours and hamartomas. Rarely, involvement may be limited to a segment of the body. Such cases of neurofibromatosis have been regarded as a sporadic phenomenon whose aetiopathogenesis is unknown. Conjectural explanations include, (1) somatic (postzygotic) mutation in a single cell early in embryonic development leading through subsequent cell divisions, to involvement of a number of progeny cells resulting in a limited distribution in the body,[1] (2) unrecognised shift of genes in some cells from the active state to the inactive state, (3) some unrecognised non-genetic factor determining manifestation in one area of the body,[2] and (4) a gene other than that for classical neurofibromatosis.[3] Only 11 such cases of segmental neurofibromatosis have been recorded so far. Herein is reported another case of this rare manifestation.

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Case Report

A 28-year-old male had numerous, discrete freckles over the right side of his body involving the scapular region, shoulder, front of chest wall, axilla, upper arm and proximal half of forearm. There were four, 2 to 5 cm sized, cafe-au-lait macules having regular borders (Fig. 1). These had appeared gradually during

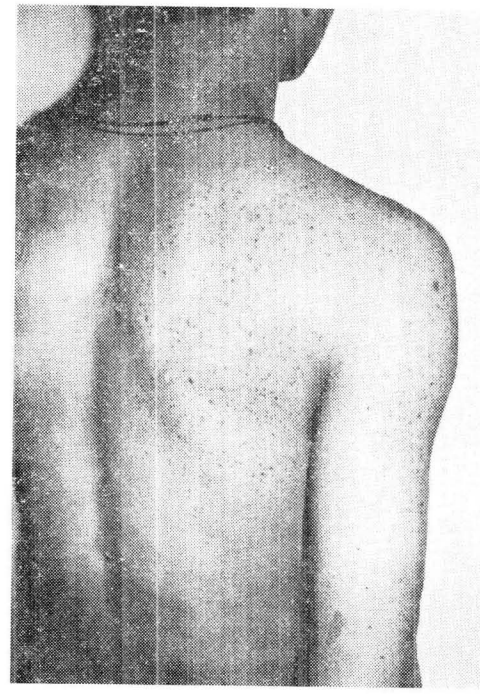

Fig. 1. Freckles and cafe-au-lait macules over the right scapular region, shoulder and upper arm.

the last 8 years, and were first noticed over the shoulder. In addition, there were numerous, asymptomatic, non-tender, soft to firm, mobile, subcutaneous nodules, 3 to 5 cm in size, on both upper limbs, thorax, abdomen and left thigh. These had developed over the last 2 years. There was no evidence of systemic involvement.

There was no history of seizures, headaches, fractures or sexual precocity. There was no consanguinity in parents. Similar hyperpigmented macules only, were reportedly present all over the body in one of the sisters of the mother and limited to abdomen only in the father's sister. Two of his father's cousins had similar cutaneous nodules only.

Histopathology of a cafe-au-lait macule revealed essentially normal-looking epidermis and dermis, with the exception of increased amount of melanin and scattered giant melanin granules in the epidermis (Fig. 2). The subcutaneous nodule was encapsulated and had lobules of mature fat cells separated by thin fibrous septa. There was blood vessel proliferation in the interlobular areas (Fig. 3).

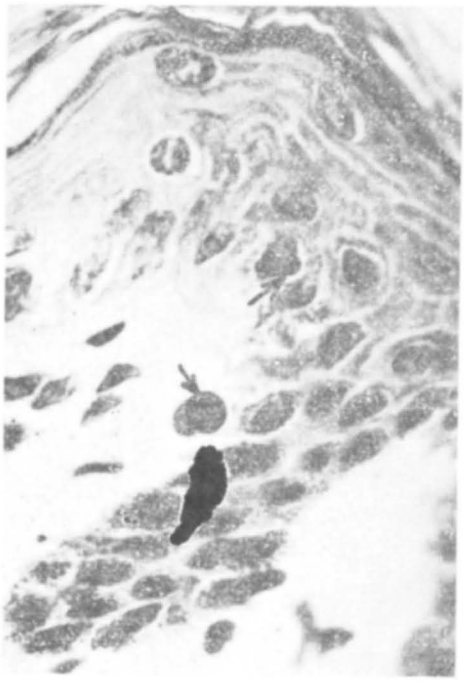

Fig. 2. Giant melanin granules in the epidermis (H & E X 250).

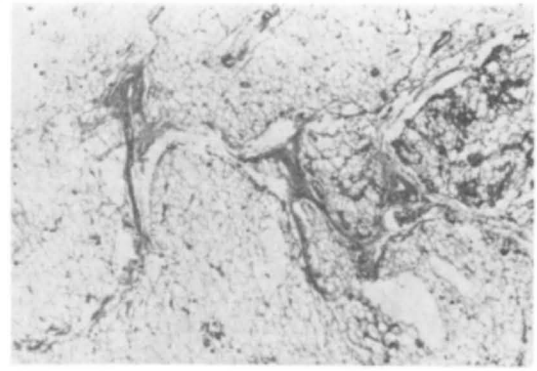

Fig. 3. Lobulated areas of mature fat cells and areas of increased vasculature (H & E X 25).

Comments

Only in a small number of cases the diagnosis of neurofibromatosis is clinically difficult. The diagnosis in such cases is likely when there are six or more cafe-au-lait macules larger than 1.5 cm in diameter.[1] Further, generalised freckling particularly of the axilla is characteristic of neurofibromatosis.[8] Axillary freckling has not been reported in any other disease.[9] Histopathologically, presence of macromelanosomes in the cafe-au-lait macules is suggestive of neurofibromatosis.[10,11]

In the presence of axillary freckling, numerous freckles and macromelanosomes, the diagnosis of segmental neurofibromatosis appears to be the most appropriate. Of the 11 cases of segmental neurofibromatosis reported earlier, 2 had pigmentary changes alone as in the present case, 4 had neurofibromas alone and 5 had both. Unilateral cafe-au-lait spots may be seen in Albright's syndrome whose other components are fibrous dysplasia and sexual precocity. However, thus far, freckles and especially axillary freckles have not been recorded. There-

fore, it is unlikely that our patient had a variant of Albright's syndrome. In fact, some workers[12] believe that Albright's syndrome and neurofibromatosis are variants of each other. Association of angiolipomas may be a coincidence. In the absence of histopathological results, these subcutaneous nodules could have erroneously been regarded as subcutaneous neurofibromata, for majority of them did not have clinical lobulation.

References

1. Crowe FW, Schull WJ and Neel JV : Clinical, pathological and genetic study of multiple neurofibromatosis, Charles C Thomas, Springfield III, 1956, p 181.
2. Miller RM and Sparks RS : Segmental neurofibromatosis, Arch Dermatol, 1977; 113 : 837-838.
3. Riccardi VM : Von Recklinghausen neurofibromatosis, New Eng J Med, 1981; 305 : 1617-1627.
4. Diekmann L, Huther W and Pfeiffer RA : Ungewshnliche erscheninungsformen der neurofibromatose (Von Recklinghausensche Krankheit) in Kindesalter, Z Kinderheilkd, 1967; 101 : 191-222. Quoted by 3.
5. Nicholls EM : Somatic variations and multiple neurofibromatosis, Human Hered, 1969; 19 : 473-479.
6. Seva P, Mourat M, Carbillet JP et al : A propos d'um cas de neurofibromatose avec hypertrophie segmentaire d'un membro, Sem Hop Paris, 1975; 51 : 1121-1127. Quoted by 3.
7. Uhlin SR : Segmental neurofibromatosis, South Med J, 1980; 73 : 526-527.
8. Mosher DB, Fitzpatrick TB and Ortonne Jean-Paul : Cafe-au-lait macules. Abnormalities of pigmentation, in : Dermatology in General Medicine, Second Ed, Editors, Fitzpatrick TB, Eisen AZ, Wolff K et al : Mc Graw-Hill Book Company, New York, 1979; p 1967.
9. Crowe FW : Axillary freckling as a diagnostic aid in neurofibromatosis, Ann Int Med, 1964; 61 : 1142-1143.
10. Benedict PH, Szabo G, Fitzpatrick TB et al : Melanotic macules in Albright's syndrome and in neurofibromatosis, J Amer Med Assoc, 1968; 205 : 618-626.
11. Jimbow K, Szabo G and Fitzpatrick TB : Ultrastructure of giant pigment granules (macromelanosomes) in the cutaneous pigmented macules of neurofibromatosis, J Invest Dermatol, 1973; 61 : 300-309.
12. Rosenberg RN, Sassin J, Zimmerman EA et al : The inter-relationship of neurofibromatosis and fibrous dysplasia, Arch Neurol, 1967; 17 : 174-179.

XANTHOMA DISSEMINATUM

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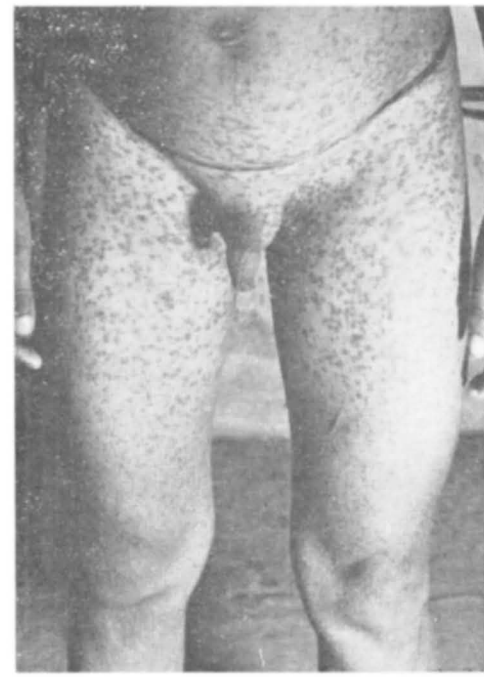
An 11-year-old male developed classical xanthomatous papules predominently over the face, neck, axillae, groins and genitalia. The patient had hoarseness of voice and associated diabetes insipidus which responded dramatically to clofibrate. Bony involvement was not apparent and plasma lipids were normal.

Key words : Xanthoma disseminatum, Diabetes insipidus.

Xanthoma disseminatum is a rare normolipemic, histiocytic proliferative disorder. Thannhauser and Magendantz[1] consider the first case of xanthoma disseminatum to be one reported by Virchow in 1871 entitled xanthoma multiplex. Since then, only about 30 cases have been reported.[2] To my knowledge, no case has yet been reported from India. Classically, the xanthomatous papules are predominently distributed over the major flexors. Mucous membranes of the mouth and upper respiratory tract may be involved in about one third of the patients.[3] Infiltrative lesions at the base of the skull may produce clinical diabetes insipidus in about 40% of the patients. Although xanthoma disseminatum has some features in common with histiocytosis X, this is regarded as a distinct entity.[3,4] Serum lipids are normal in this condition, and it is thought to be due to local tissue metabolic derangements causing primary proliferation of histiocytic elements with secondary accumulation of lipids in them.[4]

Case Report

An 11-year-old boy presented with multiple skin lesions of about 3-4 years' duration, and polyuria and polydypsia for about 5-6 months. The skin lesions were fleshy, firm, brownish, round to oval, discrete papules varying in size from 3-5 mm. These were located predominantly over the face, especially around the eyes, neck, antecubital and popliteal fossae, groins (Fig. 1), shaft of penis and scrotum. Some



papules were dome-shaped while others were flat. The lesions were not associated with itching or any other symptom. There was no ulceration or scaling. A few papular lesions were also seen over the buccal mucosa and soft palate. There were no obstructive symptoms such as dyspnoea or dysphagia but hoarseness of voice was conspicuous. There were no lesions on the cornea or conjunctiva. The vision was unimpaired. Liver and spleen were not palpable. There was no jaundice, lymphadenopathy,

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