CALCINOSIS CUTIS

(Report of two cases)

By

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Calcinosis may occur in two forms (1) Calcinosis cutis and (2) Metastatic calcinosis. The latter condition occurs in osteomyelitis, hyper-parathyroidism and hyper-vitaminosis D. Calcinosis cutis is of two types-a local type such as calcification occurring in cysts or tumours and a general type. The general type may again be either metabolic or secondary to systemic diseases such as Raynaud's disease, acrodermatitis, scleroderma and dermatomyositis.

Metabolic calcinosis occurs as calcarious deposits in the form of plaques, nodules or tumour masses varying in size from a peanut to a hazal nut. It may be circumscribed and localised to skin or sub-cutaneous tissue and is then known as calcinosis circumscripta. It may be more widespread affecting the muscles, tendons and nerves and is then known as calcinosis universalis. The condition may occur at any age. Schiff and Kern[6] and Martin and Steven[3] each described a single case in a new born. On the other hand Rivlin reported a case in a 63 years old woman.

The first authentic case of calcinosis was reported by Teissier[8] in 1876, but the condition was first reported by Hollander[2] as occurring in 1654. Calcinosis cutis is an extremely rare condition. The authors have not come accross any case report in children published in Indian Literature and hence the following two cases seen in the Children Department of Medical College Hospital, Nagpur within a period of six months are reported below:

Case No. 1: A 2 years Hindu female child came to the hospital on 12 5-1960 with the complaints of nodular swelling in both the lower limbs for the last 2 months and cough and fever since eight days.

On examination the child was found to be thin built, anemic and afebrile. The weight was 13 Lbs. 6 Ozs.

Local examination revealed diffuse firm non-tender, and non-erythematous swellings over both thighs and calves. The skin was adherant to the swellings, but they could be moved over the deeper structures as the muscles and bones. The upper limbs were free. Joint movements were not affected. Systemic examination did not reveal anything abnormal. Liver was just palpable and soft. Spleen was not palpable.

Investigations: The total R.B.C. Count was 1.9 mil/cu. mm. The total leucocyte count was 4500/cu.mm. The differential leucocyte count showed polymorphs-64%, lymphocytes-34% and monocytes-2%. Marrow

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biopsy showed normoblastic reaction. Serum calcium was 9 mg.%, serum phosphorus was 4.5 mg.% and alkaline phosphatase was 15 B. U. Liver biopsy showed clowdy changes with mononeuclear cell infiltration. There was no necrosis. Biopsy of the part showed fibrofatty tissue with irregular areas of calcification (Fig.–1). X–ray of the thighs showed calcification in the subcutaneous tissue.

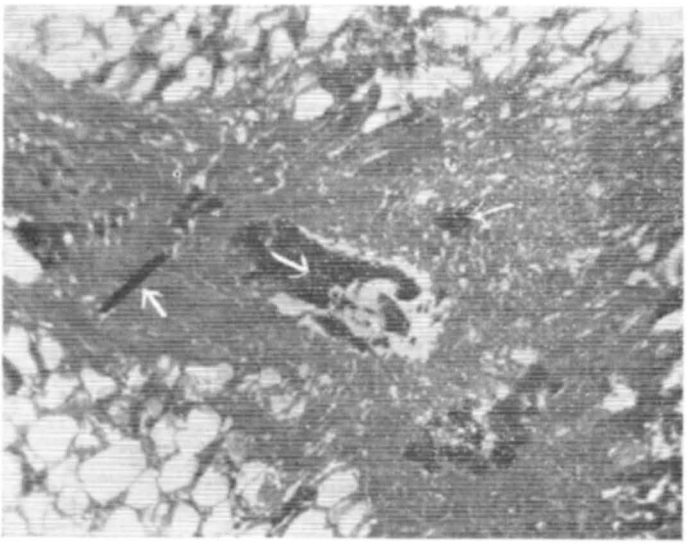

Fig.–1 : Photomicrograph of Case No. 1 showing fibrofatty tissue with irregular areas of calcification (as shown by the arrows).

Case No. 2 : (Fig.–2) A 1¼ year old Hindu male child was admitted on 8-12-1960 with the complaints of circumscribed swellings on both the thighs for 3 months. The swelling started over the thighs following injections of antidiphtheric serum locally and then spread over the calves and lower abdomen.

On examination, the child was fairly well built, not anemic and afebrile. The weight was 16 lbs. 5 ozs. Local examination revealed diffuse firm subcutaneous swellings over both the thighs, calves and lower abdomen. They were slightly erythematous, but not tender. The swellings could be moved over the deeper tissues, but the skin was adherent to the swellings. The liver, spleen and lymph glands were not enlarged. Systemic examination did not reveal anything abnormal.

Investigations: Urine examination did not show any abnormality. Serum protein was 6.6 gms. %, albumin 3.5 gms. % and globulin 3.1 gms. %. Serum calcium was 9.4 mg. %, Phosphorus 4 mg. % and alkaline phosphatase 22.8 K. A. units. The E. S. R. was 43 mm. in the first hour. X–rays of the lower limbs and abdomen showed calcification in the subcatneous tissue

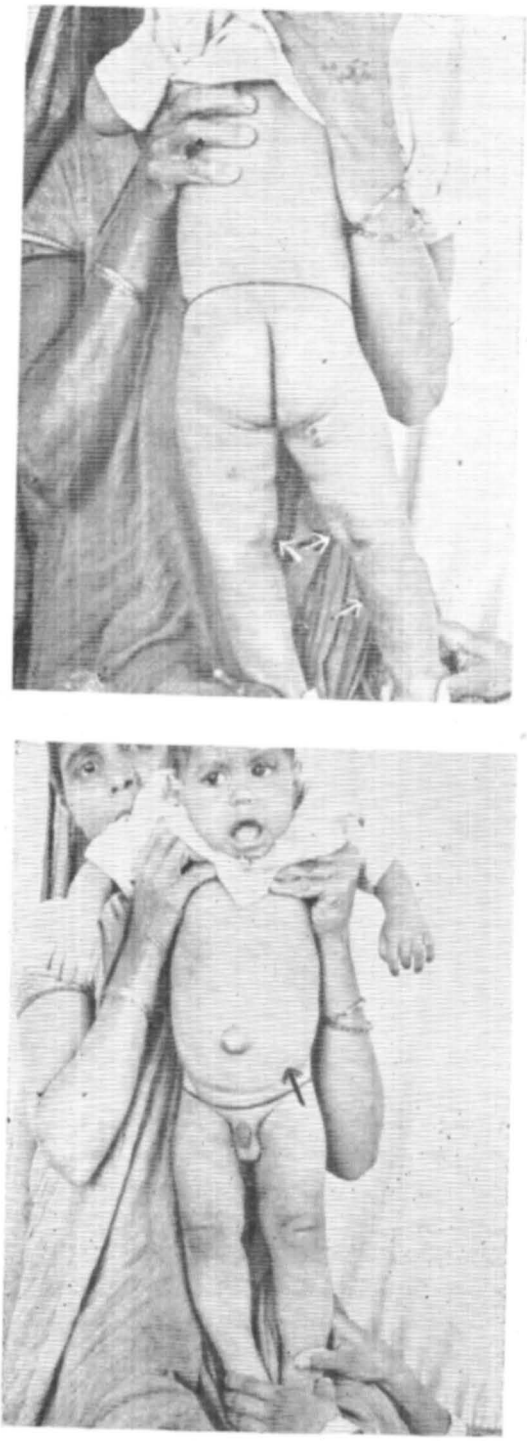

Fig -2: Photographs of Case No. 2. The arrows showing the indurated masses.

and the muscle tendons (Fig.–3). Biopsy of the swelling showed fibrofatty tissue with mild inflammatory cell response and foci of calcific deposits.

The patient was put on prednisone 5 mg. three times a day for 3 weeks without any response. Calcinosis was observed to spread over to the upper limbs also.

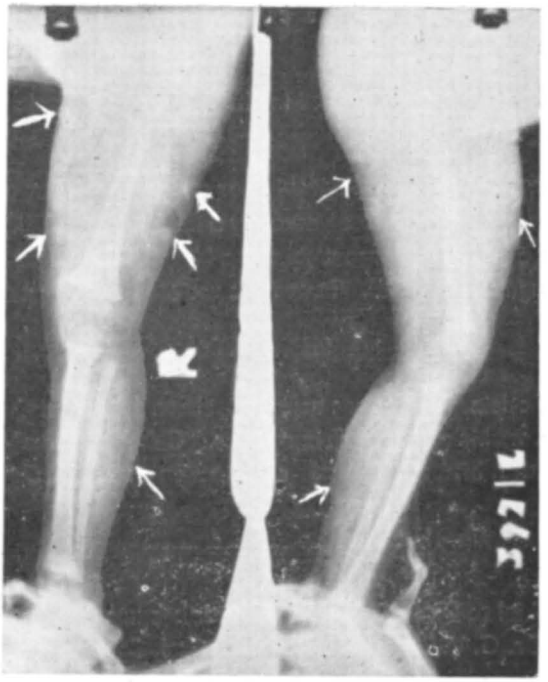

Fig.-3: X-ray thigh showing extensive calcification of the subcutaneous tissue and the muscle tendons.

DISCUSSION

The aetiology of the disease is not exactly known. Normal serum biochemistry and absence of calcification in any other organ except the skin, subcutaneous tissue and muscles ruled out the possibility of metastatic calcification in both the cases. Normal density and architecture of the bones militates against the possibility of osteomyelitis and hyperparathyroidism. There was no history of giving excess amount of Vit. D in both the cases. Sneddon and Archibald[7] reported two cases of traumatic calcinosis of the skin in two miners who had abrasions on the back on which water containing 3.5 % calcium chloride fell from the roof of the mine. There was no history of trauma in the present case.

Clinical examination of the two cases did not suggest any possibility of Raynaud's disease, acrodermatitis or collagen disease such as scleroderma or dermatomyositis. Moreover a clinical trial to Prednisone was given in the second case to rule out the

possibility of collagen disease. The patient not only failed to respond but fresh areas of calcinosis appeared during and after the steroid therapy.

An unknown disturbance of calcium and phosphorus metabolism or of alkaline phosphatase locally seemed to be the most possible cause in both the cases. How far the local injections of antidiphtheric serum in the second case played a part as procipitating factor is difficult to say. Possibly it was only a coincidence as the calcinosis spread over the abdomen and the upper limbs subsequently, where no antidiphtheric serum was injected.

In both the cases calcinosis started in the thighs and spread over other parts of the body gradually.

Prednisone was of no avail in improving or preventing the spread of the disease in the second case. Davis and Moe[1] recently tried Disodium EDTA 0.58 gm. I. V. daily for five days a week for three weeks in a Negro girl of 3 years with favourable results. This drug is worth trial. It was not used in the present cases.

SUMMARY

Two cases of calcinosis cutis are reported above as seen in the Medical College Hospital, Nagpur, within a period of six months. Other causes of calcification were ruled out from the history, clinical examination and biochemical analysis of the blood.

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