

We thank Professor L Symon for permission to study this patient at St Bartholomew's Hospital.

¹ Lipid Research Clinics. *Manual of laboratory operations*. Vol 1. Washington DC: Department of Health Education and Welfare, 1974. (DHEW Publication No (NIH) 75.628.)

² Akazawa S. A case of familial type IIa hyperlipoproteinaemia with a huge intracranial xanthoma, hypertension and periarticular bone lesions. *Nippon Naika Gakkai Zasshi* 1980;**69**:867-73.

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Plumber's knee: calcinosis cutis after repeated minor trauma in a plumber

Calcinosis cutis is not uncommon but little is known about its cause, and, surprisingly, it has rarely been reported after trauma. We describe here a case of calcinosis cutis apparently directly related to repeated minor trauma.

Case report

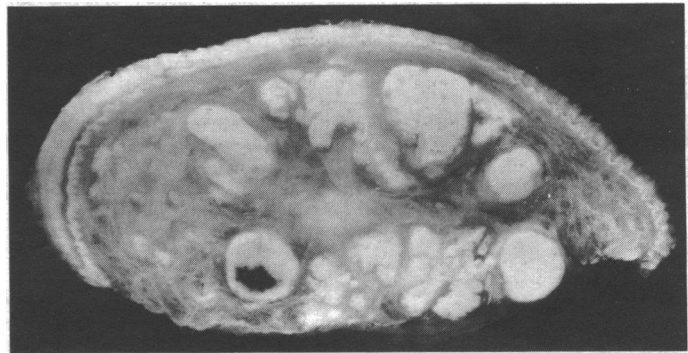
A 54 year old plumber presented complaining of a swelling below his right knee. This had been present for eight years and had grown larger over the past 12 months. A similar swelling was present beneath the left knee. When questioned directly he described his method of bending water pipes by pulling them with both arms and using either knee as a fulcrum. Examination showed a firm cutaneous swelling 4 cm in diameter below the right knee. Centrally it was fluctuant and had a small punctum. The lesion beneath the left knee was similar but smaller and not fluctuant.

Surgical exploration of the right sided swelling showed a poorly delineated lesion composed of firm white tissue containing chalky nodules (figure). Histological examination showed an extensive area of calcinosis cutis. The nodules of calcification were up to 4.5 mm in size, situated in the mid to deep dermis, and surrounded by a giant cell reaction of foreign body type. No pre-existing lesion could be identified. The superficial dermis was histologically normal but the overlying epidermis was hyperkeratotic. Chemical analysis of the dry tissue showed that it contained 16.2% calcium and 10.4% orthophosphate; oxalate and carbonate were present in trace amounts. Energy dispersive x ray microanalysis confirmed the location of elemental calcium in the nodules and showed no evidence of other metallic elements in the epidermis, dermis, or nodules.

Subsequent serological investigation showed normal values for sodium, potassium, bicarbonate, urea, creatinine, calcium (2.5 mmol/l), phosphate (1.01 mmol/l), alkaline and acid phosphatase, and albumin.

Comment

Four forms of calcinosis cutis are recognised: metastatic calcinosis, subepidermal calcified nodule, dystrophic calcinosis, and idiopathic calcinosis.¹ Metastatic calcinosis is secondary to hypercalcaemia or hyperphosphataemia, neither of which was present in this patient. Subepidermal calcified nodules usually develop in childhood and classically calcification occurs in the subepidermal zone. This patient acquired his lesions during his working life and the subepidermal zone appeared to be free from calcification. The term dystrophic calcinosis is usually reserved for calcinosis occurring in dermis which has been damaged by connective tissue diseases such as dermatomyositis and scleroderma. Idiopathic calcinosis cutis, which includes the familial tumoral calcinosis and idiopathic scrotal calcinosis, resembles dystrophic calcinosis histologically but there is no identifiable underlying disease. The lesion we describe should strictly be classified as dystrophic calcinosis cutis because there was evidence of preceding trauma.



A cut surface of the lesion removed from the right knee showing the multiple chalky nodules situated in the dermis ($\times 4.2$).

To our knowledge calcinosis cutis has only once been reported after repeated trauma. This was in low birth weight neonates in a high dependency unit who had been subjected to multiple heel pricks.² Calcification after repeated trauma does occur in sites other than the skin: in seamstresses and weavers calcification may occur in the gluteal soft tissues after ischiogluteal bursitis.³

As little as 10^{-19} g of an element can be identified with energy dispersive x ray microanalysis.⁴ Using this sensitive technique we were unable to show any of the metals commonly used to make water pipes—for example, copper. It is therefore unlikely that this patient's calcinosis cutis developed secondary to the presence of metal which had got into the dermis through an open wound. We conclude that repeated minor trauma caused by bending water pipes resulted in a form of dystrophic calcinosis cutis to the skin below the knees—"plumber's knee."

We thank Mr B R Hopkinson for allowing us to report this case, Mr A Bridge for analysing the tissue chemically, and Mr W Brackenbury for his photographic help.

¹ Lever WF, Schaumberg-Lever G. *Histopathology of the skin* 6th ed. Philadelphia: J B Lippincott, 1983.

² Sell EJ, Hansen RC, Struck-Pierce S. Calcified nodules of the heel: a complication of neonatal intensive care. *J Pediatr* 1980;**96**:473-5.

³ Withersty DJ, Chillag SA. Seamstress's bottom. *Am Family Physician* 1979;**19**:85.

⁴ Sumner AT. X ray microanalysis: a histochemical tool for elemental analysis. *Histochem J* 1983;**15**:501-41.

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Hidden dangers of sliced bread

Ingestion of foreign bodies rarely causes complications. We, however, report two cases of gastrointestinal complications due to the inadvertent ingestion of a commonly used bread wrapper clip.

Case reports

Case 1—A 73 year old edentulous woman presented with a sudden onset of abdominal pain and vomiting. For two months she had been suffering from intermittent abdominal pain, and barium meal examination and oral cholecystography had failed to identify the cause. Examination disclosed a rigid abdomen and absent bowel sounds, and a radiograph showed free gas under the left hemidiaphragm. At laparotomy a linear perforation was found in the upper ileum. The affected bowel was resected and the patient made an uneventful recovery. When the specimen was opened (figure) a bread wrapper clip 2×2 cm was found to have gripped the intestinal wall, resulting in pressure necrosis and perforation. The patient had no recollection of swallowing the clip.

Case 2—A 52 year old edentulous diabetic woman receiving oral hypo-