SHORT REPORTS

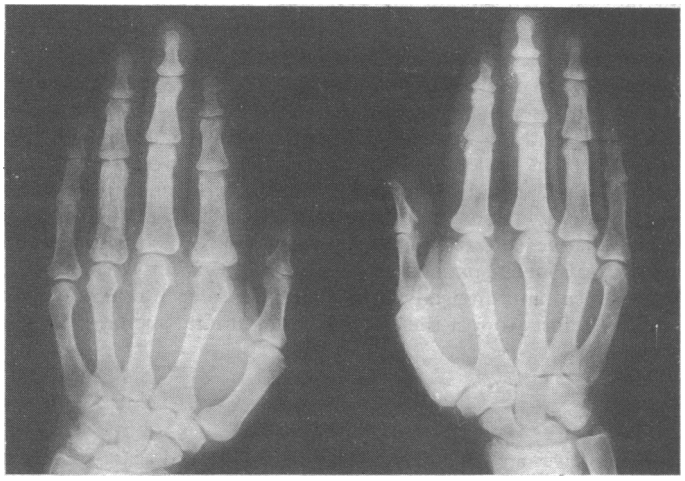
Billiard-player's fingers: an unusual case of Paget's disease of bone

Skeletal changes in Paget's disease of bone sometimes have an unusual distribution for which the cause is obscure. Observation during a recent study suggested that in some cases mechanical factors are important.[1] I report the case of a champion billiards player who developed Paget's disease at sites that clearly corresponded to lines of pressure created by aligning his cue.

Case report

A 45-year-old labourer had played billiards for several hours most days since the age of 14. At age 23 he was found to have an absent right kidney and a hydronephrotic left kidney. Left pyelolithotomy was performed. Subsequently his renal function slowly deteriorated. At age 45 he was assessed for haemodialysis. Results of investigations were: plasma urea 21·2 mmol/l (128 mg/100 ml), creatinine 640 μmol/l (7·2 mg/100 ml), calcium 1·75 mmol/l (7·0 mg/100 ml), phosphate 2·21 mmol/l (6·8 mg/100 ml), alkaline phosphatase 377 IU/l, and parathyroid hormone 15·0 μg/l (antiserum MRC 211/32; normal range 0·2-0·7 μg/l).

Skeletal survey showed mild but typical changes of Paget's disease in the pelvis, lower end of the right radius, and upper halves of both humeri. The first metacarpal on the right hand and the proximal phalanges of the second and fourth fingers on the left were strikingly abnormal (see figure), with increased trabeculation and some expansion of bone. There was no evidence of subperiosteal erosions in the hands, although the vertebral bodies did show some sclerosis in the end-plates, suggesting "rugger-jersey" spine. A skull radiograph was normal. When asked to demonstrate how he held his cue, the patient laid his left hand heavily on the table, pressing principally with the second, third, and fourth fingers, and gripped the cue tightly between the thumb and forefinger of the right hand. To spin the ball he rotated the right wrist vigorously, stressing the radius.



Radiograph of hands showing abnormalities of first metacarpal on right and of proximal phalanges of second and fourth fingers on left.

Comment

The cause of Paget's disease of bone is unknown. Both hereditary and environmental factors have been proposed.[2] There is evidence to suggest a slow virus infection, and other evidence to suggest the presence of a generalised connective-tissue defect.[3 4] The theory that physical stresses may determine the sites affected is not new. Thus it is well recognised that the condition occurs in the sacrum and lumbar, thoracic, and cervical vertebrae in decreasing order of frequency, and in the legs more commonly than the arms. A patient with extensive Paget's disease but with sparing of a leg that had been paralysed by poliomyelitis has been described.[5] The distribution in the hands in my patient was very unusual and almost certainly resulted from playing billiards. These and other cases support the hypothesis that the predisposition to develop Paget's disease affects the whole skeleton and that sites of manifestation are determined by mechanical factors.

I acknowledge the advice and encouragement of Dr N P Mallick, who gave permission to report a case under his care.

[1] Solomon, L R, *et al*, *British Medical Journal*, 1977, **2**, 485.
[2] McKusick, V, *Heritable Disorders of Connective Tissue*, 4th edn, p 718. St Louis, C V Mosby Co, 1972.
[3] Rebel, A, *et al*, *Calcified Tissue Research*, 1977, **22**, suppl, p 283.
[4] Francis, M J O, and Smith, R, *Lancet*, 1974, **1**, 841.
[5] Barry, H C, *Paget's Disease of Bone*, p 90. Edinburgh, E and S Livingstone, 1969.

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Iatrogenically induced sweating leading to weight loss

Sweating and weight loss usually suggest systemic diseases such as thyrotoxicosis, neoplasia, or chronic infection. To the list of uncommon causes we would add iatrogenic sweating.

Case report

A 65-year-old man with moderately extensive psoriasis of 30 years' duration presented with a three-year history of excessive sweating and weight loss of 25·4 kg without dietary restriction. He denied other symptoms. The drenching sweats occurred only when he took his daily bath containing tar (Polytar Emollient; Stiefel), a treatment often prescribed by dermatologists and general practitioners for psoriasis. He was clinically and chemically euthyroid, and detailed investigation failed to show a systemic cause for his weight loss.

Because the increased sweating occurred only under particular circumstances we investigated his sweat-gland function using established techniques.[1] This entailed his taking baths containing various preparations for 20 minutes each at 45°C. Two or three baths were taken for each preparation; and the mean amount of sweat produced on the forehead was 16·8 mg/10 cm²/10 min for a tap-water bath and 406·8 mg/10 cm²/10 min for one containing tar. To exclude psychological stress as a possible stimulating factor we provided a placebo "tar bath" by using cold tea to simulate the colour of tar and leaving open bottles of Polytar Emollient in the bathroom to provide the characteristic odour. This produced 99·9 mg of sweat. The placebo bath was so effective that the patient failed to distinguish it from the bath containing tar.

Comment

This patient might have presented to a physician, surgeon, or endocrinologist with his weight loss and sweating, but because of his extensive psoriasis he presented to the skin clinic. We are confident that his symptoms were iatrogenic. He was not enthusiastic about undergoing further investigations, and thus we are uncertain of the nature of this iatrogenic hyperhidrosis. When the patient stopped using the tar in his bath his sweats stopped and his weight remained constant for over nine months. Thus we may conclude that because of unknown mechanisms this man's weight loss and excessive sweating were due to an idiosyncratic reaction of the sweat glands to Polytar emollient.

[1] Cunliffe, W J, and Johnson, C E, *British Journal of Dermatology*, 1969, **79**, 519.

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