

Fig 1 Magnified view of the digital flexor apparatus. Top: the pulleys have been opened to show the superficialis chiasma and the profundus tendon. Bottom: the profundus tendon has been divided and repaired.

The diameter of these tendons was 8 mm and 6 mm respectively. A chiasma is seen in the superficialis tendon.

When the sheep's forelimb is laid on its dorsal or ventral surface it forms a stable platform. The model permits training in a variety of different surgical techniques. With wide exposure of the tendons in the proximal portion, the model lends itself to basic training in tendon suturing techniques. For more advanced training in flexor tendon surgery the digital sheath can be opened via 'retinacular windows' between the pulleys mimicking the conditions encountered in the human digit. The digit can be flexed to simulate motion of the tendons in the flexor sheath, although the arc of motion is restricted. The model also allows instruction on repair of the flatter and smaller extensor tendons and on tendon-weaving techniques.

Conflict of interests

None declared.

References

- Rhodes ND, Wilson PA, Southern SJ. The flexor-tendon repair simulator. Br J Plast Surg. 2001, 54: 373–4.
- Tan J, Wang B, Tan B, Xu Y, Tang JB. Changes in tendon strength after partial cut and effects of running peripheral sutures. J Hand Surg Br. 2003, 28: 478–82.

Wright TC, Widdowson D, Khan M, Tiernan E, Hombrey E. A costeffective training tool for flexor tendon repair: pig's trotters. J Plast Reconstr Aesthet Surg. 2006, 59: 107–8.

Simon Tan, Dominic Power and Vaikunthan Rajaratnam Birmingham Hand Centre, University Hospitals Birmingham NHS Foundation Trust, Selly Oak Hospital, Selly Oak, Birmingham, UK E-mail: simontan999@gmail.com

© The Author(s), 2009.

Reprints and permissions: http://www.sagepub.co.uk/journalsPermissions.nav doi: 10.1177/1753193409346908 available online at http://jbs.sagepub.com

Leukaemia cutis of the distal phalanx of the right thumb

Dear Sir,

A 72-year-old man with a 2.5-year history of chronic lymphocytic leukaemia (CLL) was referred with a large vegetating ulcer at the distal phalanx of his right thumb (Fig 1).

Three months previously he had noticed a corn-like induration in the pulp. He clipped the tissue and a superficial ulcer developed which did not heal. A rapidly growing, painless lesion appeared which enveloped the distal phalanx and nail. Radiographs did not show a bony lesion.

The thumb was amputated through the interphalangeal joint. Histology confirmed leukaemia cutis with infiltration of mononuclear cells with occasional cleaved nuclei and polymorphonuclear cell aggregations in the ulcerated area (Fig 2). Immunohistochemistry of infiltrated mononuclear cells in the epidermis and upper dermis was strongly positive for leukocyte common antigen. His medical treatment continued with chlorambucil. The stump healed uneventfully and remained satisfactory at one year.

Cutaneous eruptions in lymphocytic leukaemia include specific and non-specific lesions. They may dominate the clinical picture and closely simulate other diseases (Calvert et al., 1955; Freiman et al., 2003). Specific cutaneous lesions, known as leukaemia cutis, are produced by dissemination of aggressive systemic leukaemia cells to the skin (Ratnam et al., 1994). Leukaemic infiltrates can arise in scars from recent surgery, trauma, burns, herpes zoster and herpes simplex and at sites of intramuscular injections. A Koebner-like trauma related reaction is thought to play role in localization of the lesions (Freiman et al., 2003).

There are only a few reports about the hand involvement in systemic leukaemia. Simon et al. (1990) reported subungual leukaemia cutis presenting with subungual tumours in several fingers and the left big toe. High et al. (1985) reported leukaemia cutis in the hand masquerading as chronic paronychia. Freiman et al. (2003) reported 154



Fig 1 Leukaemia cutis of the distal phalanx of the right thumb.

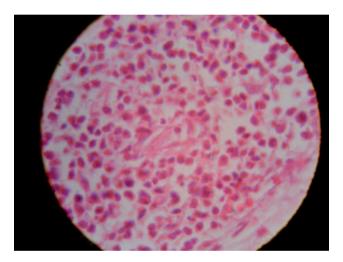


Fig 2 High magnification demonstrates infiltrated mononuclear cells with occasional cleaved nuclei (×100, haematoxylin-eosin staining).

leukaemia cutis presenting with painful symmetrical tumours of distal finger pads. Calvert et al. (1955) described clubbing of the fingers and bone lesions in all phalanges and metacarpals due to leukaemic involvement of the hands. Yagci et al. (2001) described a case of leukaemia cutis with erythematous swollen nail folds and deformity of the nail.

The treatment of leukaemia cutis is systemic chemotherapy for the underlying leukaemia. If the patient experiences pain, local electron-beam radiotherapy can result in rapid symptomatic relief and regression of specific lesions (Freiman et al., 2003; Ratnam et al. 1994).

This case is presented because of a rare manifestation of leukaemia cutis in hand. It demonstrates the importance of histopathological examination of any suspicious lesion in the hand and digits when there is a known history of malignancy.

THE JOURNAL OF HAND SURGERY VOL. 35E No. 2 FEBRUARY 2010

References

- Calvert RJ, Smith E, Shapiro L. Metastatic acropathy in lymphatic leukaemia. Blood. 1955, 10: 545–9.
- Freiman A, Muhn CY, Trudel M, Billick RC. Leukemia cutis presenting with fingertip hypertrophy. J Cutan Med Surg. 2003, 7: 57–60.
- High DA, Luscombe HA, Kauh YC. Leukaemia cutis masquerading as chronic paronychia. Int J Dermatol. 1985, 24: 595–7.
- Ratnam KV, Khor CJK, Su WPD. Leukaemia cutis. Dermatol Clin. 1994, 12: 419–31.
- Simon CA, Su WPD, Li CY. Subungual leukemia cutis. Int J Dermatol. 1990, 29: 636–9.
- Yagci M, Sucak GT, Haznedar R. Red swollen nail folds and nail deformity as presenting findings in chronic lymphocytic leukaemia. Br J Haematol. 2001, 112: 1.

Ahmadreza Afshar MD and Behrouz Ilkhanizadeh MD Department of Orthopaedics and Department of Pathology, Urmia University of Medical Sciences, Iran E-mail: afshar_ah@yahoo.com

© 2010 The British Society for Surgery of the Hand. Published by SAGE. All rights reserved. SAGE Publications doi: 10.1177/1753193409103924 available online at http://jhs.sagepub.com

The distribution of enchondromata in the hands of patients with Ollier's disease

Dear Sir,

Ollier's disease is a rare skeletal dysplasia characterized by multiple enchondromata. These commonly affect the femur, tibia (Shapiro, 1982) and phalanges (Miyawaki et al., 1997). One of the most common locations is in the hand. There is little information available in the literature regarding the distribution of the lesions within the bones of the hand. Previous studies have looked at solitary enchondromata (Gaulke, 2002) and at multiple enchondromata but in a single subject only (Miyawaki et al., 1997).

The case notes and posteroanterior hand radiographs from the most recent clinic attendance of 11 consecutive patients with confirmed Ollier's disease were studied retrospectively in order to define the pattern of distribution of enchondromata in the hand. The mean age of the patients was 17 years (standard deviation 7). Five patients were female. Nine patients were righthanded and two were left-handed.

The total number of enchondromata seen in the radiographs of the 22 hands of the 11 patients in this study was 179. The mean number of affected bones was 8.1 per hand, 6.8 in the right hand and 9.5 in the left hand. Fig 1 shows the distribution of enchondromata.

The most common individual bones affected were the proximal phalanges of the middle, ring and little finger on the left hand, in 10, nine and nine patients, respectively. On the right side, the proximal and middle