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Chronic Encapsulated Expanding Hematoma of the Calf Mimicking a Soft Tissue Tumor: A Rare Case with a 30-Year History

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A 66-year-old woman was admitted to our hospital for evaluation of a left calf mass that was locally protruding from the skin, with local pain at the site of the mass on palpation and after walking. More than 30 years ago, the patient suffered a fracture of the left knee, she found a "red date" sized lump in the anterolateral left lower leg, after the gradual increase in size of the lump, the local skin bulged. Two months ago, the mass increased significantly.

Physical examination revealed a depressed deformity of the left knee proximal to the tibia. A mass measuring approximately 16 × 6 × 4 cm was palpable in the anterolateral left lower calf, with localised tenderness. The mass was moderately firm with clear borders and was poorly mobilised and adherent to muscle tissue; no arterial pulsations were detected.

An X-ray revealed a soft tissue mass in the mid left calf with regular margins, uneven density, reticular changes and invasion of the adjacent tibiofibular bone, which was considered a possible haemangioma (Figure 1a). Computed tomography angiography revealed that the mass was primarily situated within the soft tissues of the anterior and lateral compartments of the left middle calf. Multiple nodular calcified foci were present within the mass (Figure 1b, red arrow), which was adjacent to the left anterior tibial artery. However, no obvious blood supply was observed, and cortical destruction of the adjacent middle tibia was evident (Figure 1c).

A magnetic resonance imaging examination showed that the mass had mixed signals, mainly hyperintense on T1- and T2-weighted images (Figures 1d, e, red circle). Post-contrast T1-weighted images demonstrated heterogeneous enhancement and cortical destruction in the middle part of the adjacent tibia. Hyperintense on T1- and T2-weighted images were also seen in the soft tissues of the left upper fibula, and the bone signal of the left fibula showed no obvious abnormality (Figure 1f). Combined with the imaging and clinical manifestations, a tumour-like lesion in the left calf was highly probable clinically, and a "partial excisional biopsy of the left calf tumour" was performed with no contraindications to surgery. The final paraffin biopsy result was consistent with a haematoma with calcification.

Chronic encapsulated expanding haematoma (CEEH) has been described in previous reports under many different terms, such as growing organised haematoma, (chronic) encapsulated intracerebral haematoma, organised intracerebral haematoma, etc. CEEH in the calf is clinically very rare. A study of CEEH in the brain found that the duration of CEEH ranged from 1-15 years, with a median of 6.9 years.[1,2] However, a 30-year history such as that of this patient has not been reported. The mechanism of chronic expansion haematoma remains unclear. Many studies suggest that continuous bleeding from new blood vessels in the haematoma or rupture of a cavernous haemangioma, may be the main cause.[3] Combined with the pathological findings in this case, local capillary proliferation within the mass may be one of the main reasons for the continued expansion of the lesion.

CEEH often has a long history and slow progression, and is often associated with no recent trauma. As old and new lesions are mixed and often invade adjacent tissues, it can easily be confused with soft tissue sarcomas and myositis ossificans. Soft tissue sarcomas often exhibit irregular margins, heterogeneous enhancement, and invasion of adjacent structures, which contrasts with CEEH.[4] Myositis ossificans, a benign reactive lesion, may demonstrate zonal calcification and peripheral ossification on computed tomography, a feature not typically observed in CEEH.[5] Therefore, when faced with patients with a long disease course, persistent changes and a history of trauma, we should be aware of the possibility of CEEH and consider surgical biopsy or diagnostic treatment to reduce the incidence of misdiagnosis. Informed consent was obtained from the patient and her family for publication of clinical details and images.

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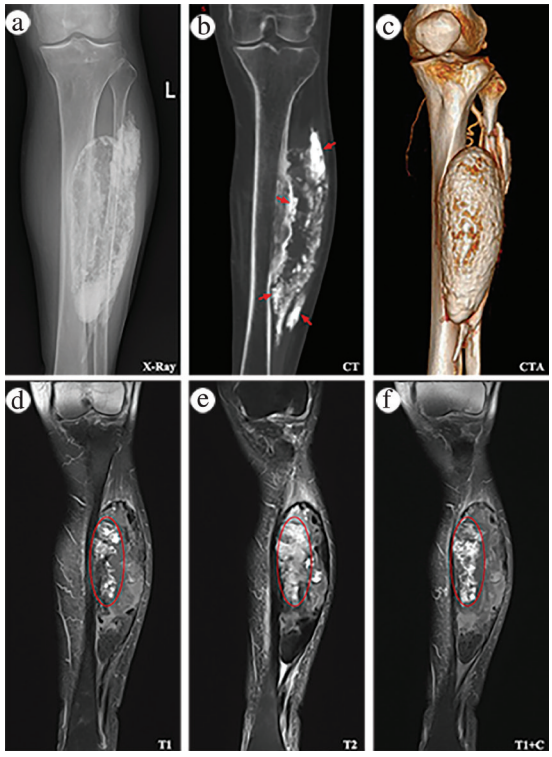

FIG. 1. Image features of CEEH in the left calf (coronal). (a) X-ray shows a soft tissue mass in the middle of the left calf with regular edges and uneven density inside it, showing a network-like change. (b, c) CTA showed multiple nodular dense shadows within the lesion. The left anterior tibial artery was adjacent to the mass, but no obvious blood supply was seen. (d-f) MRI shows that the left calf mass has a clear border and mixed signals, mainly showing slightly shorter T1 and longer T2 signals.

CEEH, chronic encapsulated expanding haematoma; CTA, computed tomography angiography; MRI, magnetic resonance imaging.

Informed Consent: Informed consent was obtained from the patient and her family for publication of clinical details and images.

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REFERENCES

1. Abou-Al-Shaar H, Patel A, Mallela AN, et al. Chronic encapsulated expanding hematomas after stereotactic radiosurgery for intracranial arteriovenous malformations: an international multicenter case series. *Neurosurgery*. 2023;92:195-204. [CrossRef]
2. Abou-Al-Shaar H, Faramand A, Zhang X, et al. Chronic encapsulated expanding hematomas after stereotactic radiosurgery for intracranial arteriovenous malformations. *J Neurosurg*. 2021;136:492-502. [CrossRef]
3. Sistiaga IL, Catalán-Uribarrena G, Gamba S, et al. Recurrence of chronic encapsulated hematoma following cyst formation after stereotactic radiosurgery for brain arteriovenous malformations: a case report. *Chin Neurosurg J*. 2025;11:1. [CrossRef]
4. Hegazi TM, Aljamaan YM, Alghamdi SG, et al. Review of soft tissue masses of the foot and ankle: magnetic resonance imaging features. *Saudi J Med Med Sci*. 2023;11:117-125. [CrossRef]
5. Werenski JO, Hung YP, Chang CY, Nielsen GP, Lozano-Calderón SA. Myositis ossificans mimicking bone surface osteosarcoma: case report with literature review. *APMIS*. 2024;132:535-543. [CrossRef]