EP-232

손가락 신경을 침범한 정맥 기형: 증례 보고

(Venous malformation involving the digital nerve of the hand: A case report)

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Purpose: Venous malformations are characterized by slow-flow hemodynamics and frequent intralesional thrombosis. Although venous malformations commonly occur in the hand, involvement of a digital nerve is rare. We report a case of venous malformation involving epineurium of a digital nerve of the hand that was successfully treated.

Methods: A 15-year-old man presented with a painless mass involving the left thumb and index finger that had been present since birth (Fig. 1). Magnetic resonance imaging revealed a lobulated vascular malformation (Fig. 2). Surgical exposure was achieved using an H-shaped incision over the thumb and a Bruner incision over the index finger. Intraoperatively, the mass extended from the volar aspect of the proximal phalanx of the thumb to the first web space and the radial aspect of the index finger. Notably, the lesion in the index finger was identified along the radial digital nerve, showing intimate epineurial involvement. The digital nerve and digital artery were carefully preserved through meticulous microsurgical dissection (Fig. 3).

Results: Histopathologic examination revealed irregularly clustered, thickened vessels with a laminated intraluminal thrombus, consistent with venous malformation (Fig. 4). Postoperatively, the patient initially experienced mild numbness on the ulnar side of the thumb and the radial side of the index finger. However, the numbness gradually improved during the 2-month follow-up period. The surgical wounds healed without complications.

Conclusion: In patients with venous malformations of the finger, possible involvement of the digital nerve should be carefully considered during evaluation and surgical planning. Meticulous microsurgical dissection can allow preservation of the nerve and safe excision of the lesion.

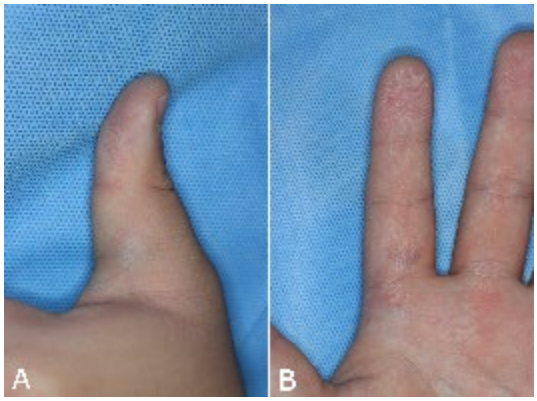

Fig. 1. Clinical photographs of the thumb and index finger. The thumb lesion shows bluish discoloration (A), whereas the index finger lesion demonstrates purple skin discoloration.

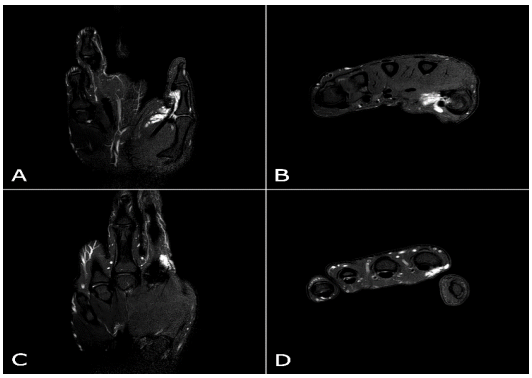

Fig. 2. T2-weighted magnetic resonance images demonstrating a lobulated vascular malformation involving the volar aspect of the proximal phalanx of the thumb (A, B) and the radial side of the index finger (C, D).

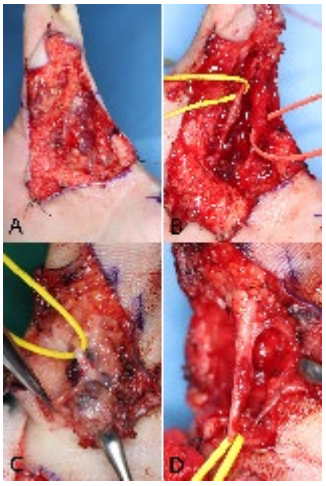

Fig. 3. Intraoperative photographs showing (A) initial exposure of the thumb mass, (B) surgical field after excision of the mass with preservation of the adjacent artery and nerve, (C) intraoperative identification of the mass along the radial digital nerve of the index finger, and (D) radial digital nerve showing intimate epineurial involvement.

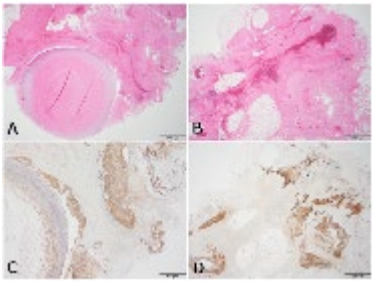

Fig. 4. Histopathologic findings of the lesions showing irregularly clustered, thickened vessels with a laminated intraluminal thrombus, consistent with venous malformation. (A, C) Hematoxylin and eosin staining and immunohistochemical staining for smooth muscle actin of the thumb lesion. (B, D) Hematoxylin and eosin staining and immunohistochemical staining for smooth muscle actin of the index finger lesion.