

A Closed Phalangeal Fracture Endangers Digital Circulation

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Abstract

It is uncommon to have closed phalangeal fractures together with concurrent vascular injuries. Such artery injuries can be caused by a variety of mechanisms, including direct vascular damage from a broken bone fragment, increased intracranial pressure, or inadvertent vascular tension during reduction procedures. To reduce consequences, acute digital ischemia necessitates the right surgical intervention(s). In addition to a brief review of the relevant literature, the authors provide a case of a closed phalangeal fracture with concurrent digital artery damage.

Key words

digital injury, finger injuries, vascular injury, closed

Introduction

One of the most frequent injuries seen in the emergency room is a fractured finger. While closed fractures without an open wound are managed more conservatively with splinting, and delayed surgical intervention may be undertaken based on the surgeon's discretion, open phalangeal fractures with exposed bone frequently necessitate rapid surgical therapy. Closed digital fractures, however, can harm important interior structures, and failing to notice this harm could have significant consequences. Here, we describe a child who suffered a closed phalangeal fracture and needed emergency surgery to save the digit.

Case Presentation

A five-year old young lady introduced to the trauma center with difficult enlarging in her left fifth finger. No outer injury was noted on actual assessment, aside from slight expanding of the proximal between phalangeal joint. Radiography

uncovered a cross over center phalangeal base crack, with striking removal of the hard piece and a corresponding break of the neck of the proximal phalanx. The patient was released after moderate administration with manual decrease and finger bracing. Nonetheless, on her subsequent visit two days after the fact, the harmed digit showed extreme enlarging combined with distal skin putrefaction, demonstrating vascular split the difference. The patient went through pressing explorative medical procedure under broad anesthesia, and resulting intraoperative investigation affirmed absolute transection of the outspread computerized corridor and nerve. Interior obsession of the cracked bone portion utilizing a Kirschner wire, alongside arteriorrhaphy and neuroorrhaphy utilizing 10-0 Ethilon stitches (Ethicon, USA), were performed. In spite of such revascularization endeavors, no clinical improvement was noticed, which prompted the misfortune of the nail extremity a half year after the medical procedure. The proximal interphalangeal joint as of now shows ordinary scope of movement, yet the distal interphalangeal joint remaining parts unbendingly fixed.

DISCUSSION

When compared to open fractures, closed phalangeal fractures are frequently seen as comparatively non-emergent, straightforward injuries (1). However, even without an open wound, closed fractures can cause significant harm to the nearby important structures, as reported in the previously presented case and other publications (2,3)

Mediation at a suitable time might have yielded an improved outcome; nonetheless, the patient introduced no cyanosis nor whiteness, and such absence of ischemic signs at last prompted deferred identification long past the 'brilliant' time window basic for appendage salvage. Given the sluggish improvement of clinical indications of vascular ischemia for this situation, vessel foothold combined with direct vascular injury from cracked bone portion during the underlying decrease favorable to cedure are recommended as the essential driver of vascular split the difference. Notwithstanding, direct injury from bone fragment relocation, as well as expanded compartment pressure following delicate tissue enlarging, may likewise have disturbed the occasion (4). We zeroed in predominantly on the outspread advanced vein since it is the prevailing vessel of the little finger, as revealed by Haerle et al (5). Intraoperative Doppler ultrasound affirmed unblemished revascularization and postoperative prostaglandin was likewise given. Sadly, such measures didn't prevail in that frame of mind of the whole finger. Nevertheless, they forestalled

further shortening of the appendage since skin putrefaction might have advanced to the center phalanx level had the medical procedure not been performed. Likewise, delicate tissue expanding, as well as reper-combination injury from postponed vascular anastomosis, may all have contributed to distal finger necrosis. A careful assessment of a harmed finger is a fundamental stage, particularly while dealing with a contained phalangeal crack in youngsters. In pediatric finger pulverize wounds, conceivable neurovascular harm ought to be thought and assessed regardless of whether no strange signs are available. Careful mediation should be expeditiously executed when vascular not set in stone, which might bring about astounding practical results

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