



Case of the Month

Dr. Naeem Toosy

Nail bed Repair

Background

Digital crush injury is a not uncommon among patients presenting to the Emergency Department. Several approaches in treatment are described including observation, trephination of the hematoma, and removal of nail with nail bed repair. Generally, if the subungual hematoma is more than 25% of the nail bed surface or causing significant pain, trephination will be the choice because of good outcomes and cost-effectiveness.

However, in situations where the nail is displaced out of the nail-fold, operative repair is likely to give better cosmetic and functional results.

Presentation

The usual presentation is a bruised and painful finger, and in over 90% of cases distal terminal phalanx fractures are found on radiograph. Occasionally when the nail plate is displaced above the nail fold, the subungual hematoma is not commonly found.

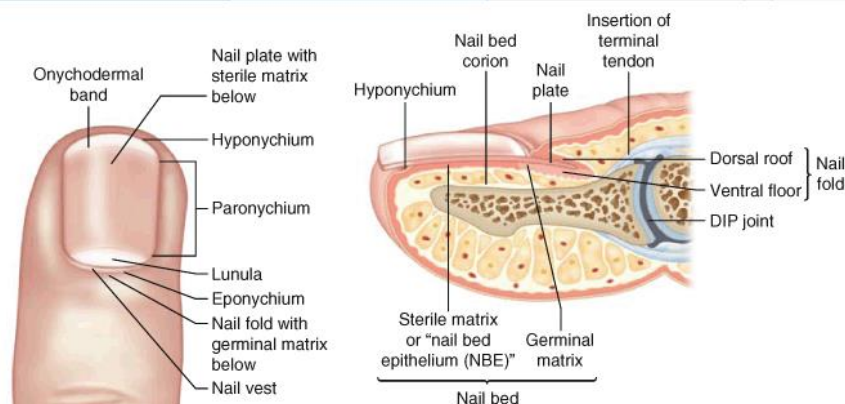


Figure 1- Anatomy of the Nail



Figure 2 – The nail plate displaced above the eponychium

Procedure

In cooperative patients including children, the procedure can be performed with local anesthetic ring block, single palmer and/or nail fold block. Occasionally sedation might be required. A tourniquet (Glove) tied around the base of the finger decreases the ooze and improves visibility.



Figure 3 – laceration of the nail-bed after nail is removed

In majority of cases there are underlying fractures and wounds should be irrigated. Sometimes the nail covers the laceration of the nail bed; which is only revealed when the nail is gently removed by inserting a pair of fine forceps underneath the terminal nail plate, revealing the nail bed.

The laceration can then be repaired using a 5/0 absorbable suture or skin adhesive. Following the repair of the nail bed laceration, the nail can be cleaned in sterile saline with removal of the adherent eponychium.

The nail plate can be inserted under the nail fold in order to protect the germinal matrix, to provide support to the nail bed and to prevent the scar from being irregular (can interfere with nail growth in the future).

Finally, the re-implanted nail can be secured in place with a single suture.



Figure 4 – The nail slipped under the nail fold and secured

Post procedure

A padded dressing is applied over vaseline gauze and changed every few days, antibiotics are only required for grossly contaminated wounds. Follow-up with a hand surgeon in 3-5 days is ideal. In 10 days the suture holding the nail in place can be removed to allow the nail to fall out, which will be replaced by a new nail eventually.

REFERENCES

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