



COMPLETELY EMBEDDED RING FOLLOWING TRAUMA

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<p>Article Info <i>Received 15/01/2015</i> <i>Revised 27/02/2015</i> <i>Accepted 09/03/2015</i></p> <p>Key words: Embedded ring, Post-traumatic, Neo-epithelialisation.</p>	<p>ABSTRACT We report a very rare case of post-traumatic completely embedded ring following trauma. Patient came to the surgical OPD 4 weeks following hand injury due to RTA, with complaints of foreign body sensation in the ring finger. A tiny wound was present over the proximal phalynx of the ring finger. No granulation tissue was present around the wound and the ring was completely covered with normal skin. The impression mark of ring was clearly visible over the skin. The ring was removed in one piece through the incision line. To the best of our knowledge, only one case has been reported previously but in that case, the wound was surrounded by the granulation tissue while in our case, granulation tissue was absent and the ring was completely covered by normal skin. Therefore this is the 1st case report of its own kind.</p>
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INTRODUCTION

Post-traumatic embedded ring is highly unusual case, which is correlated with inefficient medical care. This usually develops when the wound over the finger is stitched/dressed without removal of worn ring. The other associated factors are psychiatric illness or chronically worn impacted ring. It is more common in females due to preferential use of rings. Following trauma over the finger with chronically worn ring, there is development of oedema and low grade infection which gives rise to granulation tissue formation [1-10]. This is followed by neo-epithelialisation over the ring and the ring gets embedded inside the skin. Till this stage, there is little discomfort due to foreign body sensation and no neurovascular abnormality is evident due to rigid nature of ring. As the time passes, there is subcutaneous fibrosis, adhesion and contracture development, which produces bony erosion and neurovascular damage. At this stage, patient may have bony fracture, finger deformity, severe neuralgic pain, ischaemia or gangrene of finger.

Case Summary

A 32 years old male patient presented to the surgical OPD with complaints of foreign body sensation in

right ring finger, following right hand injury due to RTA 4 weeks back. For the injury he had consulted a local practitioner and received treatment in the form of antibiotics, analgesics, anti-tetanus prophylaxis and antiseptic dressing. No positive history of psychiatric illness was present.

On examination, a tiny wound was present over the dorsum of right ring finger. No granulation tissue was there around the wound and it was completely covered with normal skin. The impression mark of worn ring was clearly visible at the base of proximal phalynx of ring finger. On palpation, a metallic ring encircling the finger was felt. No distal neurovascular deficit was found. X-ray of right hand showed a radio-opaque metallic foreign body around the proximal phalynx of ring finger. There was no bony erosion/fracture visible on skiagram.

Under ring block anaesthesia, a 5 mm. curved incision was given over the wound on ring finger. Superior and inferior skin flaps were elevated. The ring was cut with the help of rib cutter and removed in two pieces. The postoperative period was uneventful and patient regained full range of function of the finger, on follow up.



Figure 1-3: Pre-operative photographs showing the wound at the dorsal aspect of proximal phalynx of ring finger, no granulation tissue present, ring is completely covered with normal skin and impression of the ring is clearly visible.

Figure 4,5: X-ray hand showing radio-opaque foreign body at the proximal phalynx of ring finger, no bony fracture/erosion is visible.

Figure 6: Peri-operative photograph showing embedded ring.



DISCUSSION

Till date, 15 cases have been reported worldwide and only one case has been reported from India. The important aspect of management is preoperative exclusion of neurovascular involvement/damage and association of psychiatric illness, because special approach is needed in both the situations. Psychiatric consultation will be required before surgery and will be continued in postoperative period. Removal of ring can be done under local anaesthesia, ring block or brachial regional block. The choice of incision could be circumferential curved incision over the embedded ring, zigzag Brunner's incision or vertical incision over the volar aspect of finger.^[2] The

ring can be removed in a single piece or in two pieces in case of impacted ring. In case of embedded ring associated with gangrene of the finger, ring removal is done after finger amputation.

CONCLUSION

In the management of hand trauma, rings should be removed before stitching or dressing of wound.

Footnotes

Source of support: Nil.

Conflicts of interest: None declared.

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