

Biting off more than you can chew: a forensic case report

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A case is reported where a forefinger is 'amputated' by a human bite. This type of extreme biting injury is uncommon and probably represents tearing by the premolar teeth rather than a clean bite by incisor teeth.

Bite injuries are relatively common and are seen in a variety of circumstances including assaults, rape, murder and child abuse.¹ The marks left on the skin may be of evidential value in identifying the biter or in eliminating from suspicion those suspected of making the bite mark.² Despite the large forces that may be generated in biting it is uncommon to see deep penetration of the skin by the teeth. The reason that this is seldom seen is that most bites occur over unsupported soft tissue. Common areas where bite marks may be found include the arms, neck, breasts, trunk, cheeks and legs. Only where bone or cartilage is close to the surface of the skin can tooth penetration be noted. Recently a high profile case involving the boxer Mike Tyson showed the vulnerability of ears. Apart from ears the other area where tissue loss may occur because of a bite is the tip of the nose. Bite marks of the fingers, while relatively common in assaults, do not often lead to tissue loss. Severance of a substantial length of fingertip by human teeth is rare and would require considerable force to cut through the supporting bone — see case report.

Comment

The case report represents a very unusual bite injury and is the most damaging bite injury, in terms of tissue loss, we have seen in more than 40 years of combined forensic experience. Considerable tearing forces must have been needed to inflict this injury and we

postulate that premolar teeth were involved to tear the finger away.

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Case report

Police Officers were called to attend a dispute between two men in a Dundee public house. During the course of the fight a portion of forefinger was bitten away from one of the men. The fingertip that was found by police on the floor of the bar could not be surgically reattached and was subsequently sent to us for forensic examination. The tip of the finger distal to the distal interphalangeal joint had been detached. The ruptured bone had an elliptical contour some 8 × 4 mm in size. The flexor digitorum profundus tendon could be seen emerging into a dense periosteum. There was no evidence of an extensor tendon as the break was at the base of the nail bed. Figure 1 shows the 'amputated' fingertip and attached medial and distal neurovascular bundles. The vascular elements were sufficiently long to have been worn away directly from their origin on the superficial palmar arterial arch. Tooth marks were noted on the skin. These were of such size that we formed the opinion that they were likely to have been caused by incisor teeth. In order to have detached the bony tip of the digit we also assumed that the injury involved the tearing

In brief

- A case report of a finger bitten through in a public house brawl.
- This is a rare injury and would have required considerable force.
- It is postulated that premolar teeth were involved in producing the injury.

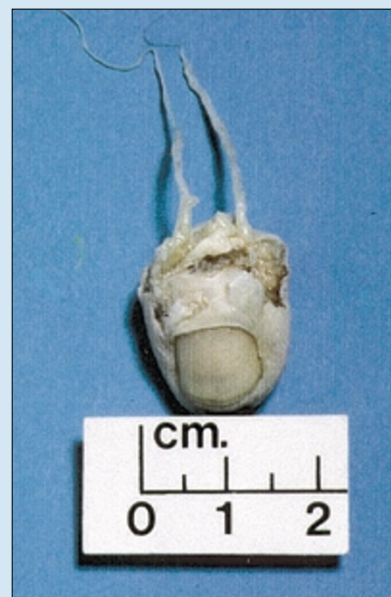


Fig. 1 This figure shows the 'amputated' finger and associated neurovascular bundles. It should be noted that more than 1 cm of fingertip has been lost

away of the finger tip against the resistance of the bone and residual non-incised soft tissue (including the flexor digitorum profundus, the extensor tendon and the joint itself) must, we think, have involved the teeth distal to the incisors.

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REFEREED PAPER

Received 28.04.99; accepted 16.06.99

© British Dental Journal 1999; 187: 466