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Significance of assault injury of the hand

A case report

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Summary

A patient who developed septic arthritis of a metacarpophalangeal joint after penetration by a tooth in a fist fight is described. The importance of recognising such a lesion at the time of injury is stressed.

S Afr Med J 1988; **74:** 183.

Punching an adversary in the mouth without the protection of a boxing glove can lead to a severe septic arthritis of a metocarpophalangeal joint if a tooth penetrates it. Any suspicious looking wound over the knuckles after a fist fight must be considered to have penetrated the joint; immediate exploration and lavage is advised.[1-4]

Case report

A 45-year-old man was referred to Tygerberg Hospital for an opinion on unresolved 'cellulitis' of the right hand. Five days before he had been in a fist fight and had sustained a laceration of the knuckle of the middle finger. The wound was sutured elsewhere, but he had returned there later complaining of severe pain. Early infection was considered, antibiotics were prescribed and alternate sutures were removed. The next day he was referred for a specialist opinion and was treated for cellulitis with elevation and parenteral antibiotics.

On examination in our unit the patient had obvious septic arthritis involving the metacarpophalangeal joint. Radiography revealed no fracture.

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Accepted 5 Nov 1987.

Under brachial block anaesthesia and in a bloodless field, the laceration was extended proximally and distally alongside the extensor tendon. It was soon obvious that the initial wound had penetrated the joint space. The capsule of the joint was opened further to allow inspection of the joint surfaces; this revealed a tooth mark on the articular surface of the metacarpal head. Loose pieces of articular cartilage were removed and the joint was copiously irrigated.

The wound was packed and both active and passive mobilisation was begun the next day. Once the infection was controlled, the skin edges were approximated and healing of the wound followed.

Discussion

A wound over the knuckles after a fist fight must be considered to be caused by a tooth penetrating the metacarpophalangeal joint. Radiography will often not reveal an injury to the articular surface of the metacarpal head. Exploration of the wound under a bloodless field and extension of the laceration will reveal if there is penetration of the joint. Copious irrigation and removal of loose fragments of articular surface are indicated.[1-4] Leaving the wound open for free drainage and later approximation of the skin edges is recommended.

Late presentation with established septic arthritis (the causative organism is usually an anaerobic streptococcus) necessitates parenteral antibiotics and arthrotomy. Early mobilisation following drainage is essential.[1,2]

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