CASE REPORT

Case presentation: a novel way of treating acute cauliflower ear in a professional rugby player

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Acute auricular haematoma is a common problem in rugby players and can be difficult to treat due to re-accumulation of the fluid and can subsequently cause the unsightly cauliflower ear. We present a case of auricular haematoma affecting the central part of the pinna in a professional rugby player. This was treated successfully by aspiration and the use of silicone splints which allowed the player to continue training and competing.

A 28 year old professional Rugby Union player who played as a second row forward, presented with an acute auricular haematoma. This had been aspirated by the club doctor, but had however quickly re-accumulated. On examination the haematoma affected the central part of the pinna (the concha) and was causing approximately 75% occlusion of the external auditory meatus. The patient's main concern was the potential deficit this would cause to his hearing as well as cosmesis. However, hearing is only a problem if there is complete canal occlusion. On the other hand, we were concerned about functional complications, which include disruption of the normal mechanism of wax transport from the ear canal, increased risk of otitis externa, and difficulty in wearing earphones.

Due to daily training and weekly match commitments, the player did not want to undergo formal surgery. We therefore elected to attempt aspiration and packing using ribbon gauze and dental rolls. Despite tight compression bandaging, the haematoma re-accumulated within hours and two further attempts at aspiration were made over the following 48 h. We were still unable to prevent the haematoma returning. This was felt to be due to the difficulty of adequately packing the concha and then maintaining pressure. As we were aware that the structure of the concha allows hearing aids to be inserted and to be self supporting, we decided to enlist the help of an audiometrician. A mould of the concha was taken along with a mould of the posterior auricular space immediately following aspiration (fig 1). The material used was a silicone called Steramould manufactured by DETAX (Ettlingen, Germany). This is the same material used for taking impressions of the ear when fitting hearing aids. This provided two moulds which splinted the pinna and were held in place by light compression bandaging. The moulds were comfortably worn under rugby headgear and whilst sleeping. This allowed the player to continue training, including scrummaging, and play in a competitive match. As the moulds were easy to apply they could be removed for short periods of time to allow washing.

After 10 days the haematoma had not re-accumulated and the moulds were removed.

DISCUSSION

Auricular haematoma occurs following blunt trauma when blood and serum accumulate between the perichondrium and cartilage. It most commonly affects the helical rim of the pinna but sometimes, as in our case, can affect the conchal bowl. If left untreated a ''plate'' of fibroneocartilage develops from the damaged perichondrium and the resulting scarring and regeneration of the cartilage leaves the cosmetically unsightly ''cauliflower ear'', characterised by thickening and irregular projection of the ear.[1 2] The incidence of cauliflower ear in rugby players is not reported in the literature, but anecdotal evidence would suggest that it is a relatively common condition in contact sports, particularly in rugby and boxing.

Treatment options

In the early stages following injury, simple aspiration is an option. However, it is complicated by re-accumulation which occurs unless adequate pressure can be maintained with packing.[3] In our case this was ineffective when using conventional packing materials. A more definitive result can be obtained by incision and drainage and either leaving a suction drain in situ or suturing a ''button'' over the area to force apposition of the skin, perichondrium, and cartilage.[4 5] This was not an option in our case due to the player's training and playing commitments and his reluctance to take time off.

If treatment is delayed and a plate of fibroneocartilage has formed, then permanent ear deformity will result unless formal surgical excision is undertaken, which has been done up to 1 month following injury.[6] Once a mature cauliflower ear has formed, then reconstructive plastic surgery is required to restore normal form to the pinna.[7]

The use of silicone moulds as a treatment for acute auricular haematoma has only been mentioned in the literature twice in the past 40 years, and in the authors' experience it is not commonly used.[8 9] There have been no case controlled studies into the effectiveness of this treatment

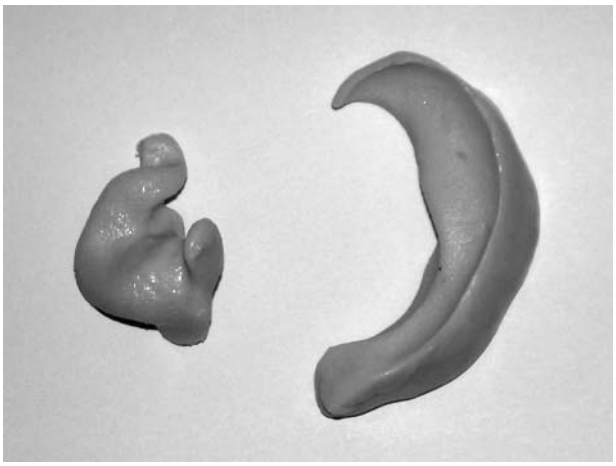

Figure 1 Silicone ear splints.

What is already known on this topic

Acute auricular haematoma is a common problem in rugby players. It can be difficult to treat due to re-accumulation of fluid and can subsequently cause unsightly cauliflower ear.

What this study adds

Acute auricular haematoma can be managed conservatively by aspiration and the application of silicone moulds to splint the pinna, especially if the haematoma affects the conchal bowl.

and there are no cases of this technique being used in the setting of professional rugby.

For professional athletes, returning to training and competition as quickly as possible is often their priority following injury. There is pressure to avoid losing their place in the team and also the pecuniary interest of appearance and win bonuses. For this reason professional rugby players may wish to avoid a surgical procedure for an auricular haematoma, especially when it may be looked upon as a cosmetic problem.

Summary

Acute auricular haematoma is a relatively common injury on the rugby field and frequently goes untreated. Simple aspiration is often an inadequate method of managing this problem due to the high rate of re-accumulation. However, we have demonstrated that it can be managed conservatively by aspiration and the application of silicone moulds to splint the pinna, especially if the haematoma affects the conchal bowl. In our case, this treatment allowed the athlete to continue playing and gave a satisfactory cosmetic and functional result. A design modification would be to provide a canal through the mould in order to facilitate hearing.

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