A Linguobuccal Dislocation Studied with MR

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Summary: An unusual combination of facial and cervical trauma was evaluated. The MR findings are reported to describe possible complications of capitation.

Index term: Neuroradiology and neuroradiologists, bon bons

Case Report

A 48-year-old, 160-pound white man was admitted to our hospital for evaluation of a distended left cheek and pain in his neck. The man reported that while dining, his head became entangled in the purse strap of a female diner walking behind his chair. The force of the strap pulled his head backward, overturning the chair, and forcing his head against the bowling bag belonging to another diner. He was dragged a distance of 14 ft before the woman realized she had snared him. In the emergency room, a protrusion of the left cheek was noted and evaluated with a 0.5-T magnetic resonance (MR) scanner (Signa, General Electric Medical Systems, Milwaukee, Wis) using a Helmholz coil. The images (Fig 1) revealed the patient’s tongue in his cheek. A fracture of the axis was noted incidentally. Computed tomographic (CT) images confirmed a fracture of the pars interarticularis of C-2. The tongue was reduced, and the C-2 fracture treated conventionally.

Discussion

The purpose of this report is to describe the linguobuccal dislocation occurring with a C-2 pars interarticularis fracture. Although the linguobuccal dislocation described here may be disabling (1), people with linguobuccal dislocation are not usually considered serious. The condition may be included in the differential diagnosis of speech apraxia, or it may be a factor in some health care policy recommendations.

The morbid pathology of fractures of the pars interarticularis of C-2 was described first by an investigator who studied the cause of death from judicial hanging (2). Although the fracture was designated a Hangman’s fracture, no cases have been recorded in a hangman (3). Because judicial hangings are now rare, motor vehicle accidents and trauma such as that caused in our region by changing physical properties of H₂O (4) account for most C-2 fractures.

Judicial hangings can be classified into two types: the long drop and the short drop methods. The short drop method results in death by asphyxiation, not in humane, instantaneous death (5). Theatrical hangings in westerns like Lonesome Dove (Motown Productions, 1990) illustrate the short drop method, because of the political strength of the Stuntmen’s Union. Capital punishment was abolished in our state in 1857 when a prisoner condemned to judicial hanging survived 7 minutes of asphyxia before dying. The long drop method is the alternative.
Guidelines for the long drop have been reported (2):

\[
\frac{2240}{\text{weight of hangee (lbs)}} = \text{length of drop (ft)}
\]

A 160-lb hangee, dropped 14 ft, 6 in, and allowing for some elasticity in the rope, receives 2240 foot-pounds of shock, which causes instantaneous death (2). Our patient, weighing 160 lbs, and dragged 14 ft, received less force than that produced by judicial hanging. The calculations do not include either purse-strap dragging or bowling-bag factors.

To our knowledge, no other cases of linguo-buccal dislocation have been reported.

Acknowledgments

The patient wishes to thank Precision Bowling Accessories. The authors wish to thank Ms Pell for manuscript typing; Alt F. Tu for proofreading; Del Block for editorial suggestions; Kay Cera for statistical analysis; the Law Firm of Lettum, Tri and Suwus for legal counsel; Paul Lakka from Lakka Foundation for his help; Frank Malaprop for reviewing the manuscript; and Ms Nomer for checking the anatomic terminology.

References