FIGURE 2. A. The right maxillary central incisor was stabilized by banding an arch bar to it and the adjacent lateral incisor and cuspid (arrows). Note that the lugs are upside down. Unless intermaxillary fixation or the joining of 2 bars together is required, the position of the lugs is unimportant. B. Radiograph showing the arch bar attached to the right maxillary anterior teeth.

References


FOREIGN BODY PROJECTILE IMPALEMENT INTO THE INFRATEMPORAL FOSSA SPACE: AN UNUSUAL TRAUMA CASE REPORT

To the Editor.—In today’s fast-paced society, there is an ever-increasing dilemma with which we are all faced. Regionalization of trauma centers has a tendency to increase the influx of cases to those centers, including even minor trauma cases. Unfortunately, this has led to a decrease in the knowledge of how to manage unusual traumatic injuries by both the doctors and the staff of smaller community hospitals. In our community of 90,000 people, there exists a level 1 as well as a level 2 trauma center with a minimum of 3 helicopters available for the transport of trauma patients in the East Texas region. A partnership has developed between the hospital entities and the 5 main specialty groups involved in trauma care, that being the trauma surgeons, orthopedic surgeons, neurosurgeons, oral and maxillofacial surgeons, and the anesthesia service. By utilizing this select group of individuals, very predictable results are obtained, along with a high degree of camaraderie among
those rendering providers, which has eliminated some of the questions surrounding who provides the care and at what cost.

Historically, the management of facial trauma by oral and maxillofacial surgeons had its beginning during World War I. It quickly became apparent that the oral and maxillofacial surgeon was one of the most qualified individuals available who could not only manage the facial injuries, but help ensure adequate airway and future pathways for the intake of nutrition. All oral and maxillofacial surgery residency programs have carried forth this philosophy. Once an individual is out in private practice, however, involvement with trauma sometimes goes by the wayside. It behooves all oral and maxillofacial surgeons to continue their involvement with trauma care, as it provides one of the best ways of keeping both surgical and mental skills sharp for the purposes of devising methods of managing complex situations.

FIGURE 2. Note size and position of bolt within the skull.

The following unusual case shows our continued intense interest in the care of trauma patients in that innovation applied to unique situations is constantly required in trauma surgery.

Case Report

A 33-year-old man was admitted to Trinity Mother Frances Hospital (level 2 trauma center) in Tyler, TX, with a diagnosis of a foreign body projectile wound to the head (Fig 1). Apparently, he was attempting to straighten up a small building that started to tip over. He placed a large 6-inch eye bolt (Fig 2) into a supporting beam and then attempted to upright the building using a “come-along,” a device used to stretch fences or to extract vehicles that are stuck in mud. As he continued to apply force, the eyebolt pulled loose and struck him in the right posterior temporal region just above the external auditory canal. The projectile traveled forward along the side of skull, under the zygomatic arch, and through the infratemporal space to the posterior wall of the maxilla. The only part of the eyebolt left sticking out was the “eye” (in the postauricular region; Fig 1). He had no loss of consciousness or any other injuries and was transported from an outlying hospital to our level 2 regional trauma center for evaluation of his injury. The computed tomography scan appeared to indicate no intracranial injuries. A neurosurgical consultation was obtained, which confirmed the lack of intracranial involvement (Fig 3). At this time, the

FIGURE 3. Radiographic appearance of foreign body.

FIGURE 4. Endotracheal tube placed around the bolt to facilitate removal.
Oral and Maxillofacial Surgery service was contacted for consideration of how to extract the projectile. The patient was examined in the emergency room with the only positive physical finding being limitation of the mouth opening, which was less than 10 mm. This was obviously due to impingement of the coronoid process near which the projectile was lodged. With the above finding, it was decided to take the patient to the operating room for direct visualization during the removal process. Although there was no intracranial involvement, it was believed that the potential for significant bleeding existed. Simply “unscrewing” the bolt would not have been a good approach to this problem because the deep-grooved threads of the eyebolt more than likely contained debris from the wood and this would be left in the wound if the bolt was simply unscrewed.

Protection of the screw while it was being removed was needed. A small incision was made at the superior aspect of the wound in the posterior auricular area. An ~endotracheal~ tube was then brought to the surgical field, split lengthwise, and inserted along the track of the wound of the eyebolt so that the endotracheal tube actually encased three-fourths of the surface of the eyebolt for its entire length. After this, the eyebolt and the endotracheal tube were both removed together, thus preventing any further contamination of the wound tract or additional tissue damage (Fig 4). After copious irrigation, a small stab incision was made lower in the posterior auricular region and a 19-gauge butterfly venipuncture set was brought to the field. The portion of the venipuncture set that attached to the syringe was clipped off, and several small openings were made along the first inch of the venipuncture tubing (Fig 5). This was then inserted into the wound to provide a small direct suction catheter into the area. This particular drain has been quite useful in a multitude of facial injuries where a small drain was indicated. The needle of the venipuncture set was then inserted into a simple blood collection tube to provide the negative pressure for suction to the area. This blood collection tube could easily be changed by the nursing staff as needed. Primary closure and a pressure dressing were used.

The basis for reporting this particular case was to show not only the surgical skills necessary to remove the foreign body but also the imagination that is needed to come up with a solution to the problem. These skills are developed over years of managing trauma cases, and for that very reason, the direct involvement of all oral and maxillofacial surgeons in trauma care is a necessary and beneficial adjunct to one’s practice career.

DENNIS SPENCE, DDS, MS
Tyler, TX
San Antonio, TX
WILLIE J. PARKS, Jr, DDS, MD
Tyler, TX
HENRY H. ROWSHAN, DDS
Fort Gordon, GA

doi 10.1016/j.joms.2006.07.005

BEYOND BISPHOSPHONATES: THROMBOPHILIA, HYPOFIBRINOLYSIS, AND JAW OSTEONECROSIS

To the Editor—Without addressing the established multi-causal medical model of osteonecrosis, your editorial leaves the reader with an oversimplified understanding of what “co-factors” may be contributing to the progression of jaw necrosis in the multiple myeloma patient taking bisphosphonates. This greatly limits our ability to make informed decisions about prevention, treatment, and prognosis. Heritable disorders of coagulation that increase the likelihood of thrombosis (thrombophilia and hypofibrinolysis) are not uncommon, with an estimated 10% of the United States affected. Not only are patients with these pathogenetic aberrations predisposed to the development of ischemic bone damage, but also to deep vein thrombosis, pulmonary embolus, myocardial infarction, and stroke. If possible, local “co-factors,” such as infection or trauma, should be avoided because they further amplify molecular mechanisms already active systemically, behaving as “triggering” events for coagulation with subsequent thrombosis.

The amplified thrombotic risk when a secondary or “triggering” factor is added to a susceptible individual is well illustrated by the use of exogenous estrogen in women. When a woman with Factor V Leiden, a relatively common inherited thrombophilic state, takes exogenous estrogen, she is up to 80 times more likely to generate thrombi than a woman who is taking the estrogen but lacks the genetic defect. This is only one of more than 15 testable prothrombotic conditions, all of which go undiagnosed unless specific, recently developed genetic and coagulopathy tests are performed. In light of all this, should we not examine the question that bisphosphonate therapies may be similar secondary risk enhancers in genetically susceptible individuals?

ROBERT E. MCMAHON, DDS
Valparaiso, IN
JERRY H. BOURJOUX, DDS, MS, FICD
Houston, TX
CHARLES J. GLUECK, MD
Cincinnati, OH
JOHN GRIER, MD, JD
Indianapolis, IN