

Stab Wound in the Neck with Injury to the Cervical Cord and Ipsilateral Vertebral Artery: Report of a Case

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Stab wounds of the cervical spine with spinal cord and vertebral artery injuries are rare. We report here a case of penetrating cervical spinal cord trauma with ipsilateral vertebral artery injury and incomplete spinal injury. After appropriate surgical management, the patient has functional recovery. With the advent of radiologic imaging, early recognition can be readily made to identify the extent of damage. The choice of treatment is controversial. Adequate management may result in favorable outcome in patients with incomplete spinal injury. A high index of suspicion for this kind of rare injury is imperative in the management of traumatized patients.

Key words: penetrating wound, stab wound, spinal cord injury, vertebral artery injury

Stab wounds of the spine are rare. Only one large review has been published¹ and most data come from case reports.²⁻⁵ These injuries, caused by stabbing during an assault, are often associated with stab wounds of the other parts of the body.⁶ The incidence of vertebral artery injury in penetrating neck trauma varies from 1 to 7.4%.⁵ Stab wounds to the spinal cord with vertebral artery injury caused by accidents are extremely rare.

We report here a case of penetrating cervical spinal cord trauma with ipsilateral vertebral artery injury. The stab wound severed the vertebral artery between the transverse process of C3 and C4 to the lamina of C2, causing incomplete spinal cord injury. The management will be discussed with a review of relevant literature.

Case Report

A 60-year-old female, holding a pole while riding a bicycle, was involved in a roadside accident and was sent to our emergency room. The physical examination then showed a metal pole penetrating the right anterior neck (Fig 1). Her initial Glasgow coma scale was E1V1M4,

and a low blood pressure and weakness of the four limbs were noted. After intubation and fluid resuscitation with normal saline, her vital signs were stabilized. The Glasgow coma scale was E1VtM5 after resuscitation. The muscle power grading on the right limbs was zero, while in the left limbs it was grade two to three/five (Royal Medical Research Council of Great Britain, modified).

Plain cervical radiographs showed a metallic foreign body in the neck with soft tissue swelling (Fig 2). Head and cervical computerized tomography (CT) scans showed subarachnoid hemorrhage in the right suprasellar cistern and ambient cistern (Fig 3), and a pole penetrating from the right transverse process of C2 and C3 vertebrae into the lateral side of the cord up to the C2 lamina with bony fracture (Fig 4).

The patient underwent surgery for neck exploration and removal of the pole via the right anterior neck approach. After careful dissection of the soft tissues to the bone, thrombosis of the right vertebral artery with mild bleeding was found during exploration. The bleeding was stopped by packing and compression. No injuries to the carotid sheath, esophagus, or trachea were

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