Cervical Spine Clearance in the Obtunded Patient

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Introduction

Significant cervical spine injury occurs in roughly 2-6% of blunt trauma patients, in which severe neurological injury can occur through missed diagnosis.1 On the other hand, prolonged cervical collar days are associated with high morbidity.2 In 2013, the CNS and the AANS reviewed the most recent literature in CS clearance to conclude that: it is facility/physician discretion to clear through either CT scan +/- a MRI c-spine in the obtunded patient, and that "the decision for further patient management involve physicians trained in the diagnosis and management of spinal injuries." In concordance with these guidelines, we felt that it was necessary to implement a CS clearance protocol that involved consultation with neurosurgery for all CS clearance decisions in the obtunded patient. We looked at total in-cervical collar days in patients prior and post protocol implementation.

Methods

A 3 year retrospective review was performed prior to implementation of the CS clearance protocol and then for 4 months prospectively to determine total C collar days. This study included all patients with a GCS <13 for >2days who were placed in a cervical collar. The pediatric patient population, age <18 was excluded.

Results

Prior to protocol implementation (n=125), an obtunded patient with a negative CT cervical spine spent a total of 9.5 +/- 7 days in hard collar immobilization prior to clearance. In comparison, the post protocol patient (n=14) spent 5.9 +/- 4.5 days in hard collar immobilization (P-value .05, non-parametric t test). There were no harmful events seen in patients with the cervical collar cleared after protocol implementation.

Conclusions

Strict use of neurosurgery for c spine clearance in the obtunded patient with a negative CT cervical spine, led to a reduction in total in-cervical collar days by 3.6 days (P=.05).

References

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