Counting the Cost of Cervical Collars

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Abbreviations:
EMS: Emergency Medical Services
MILS: manual in-line stabilization
NHS: National Health Service
SCI: spinal cord injury
SSI: selective spinal immobilization

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To the Editor,

For forty years, the cervical collar has been a centerpiece in the prehospital treatment of suspected spinal injury, and in the past two years, a number of guidelines have emerged which recommend a more selective approach to spinal immobilization for this group of trauma patients.[1-3] There is increasing awareness that "triple immobilization," using a cervical collar, soft blocks, and tape to immobilize the cervical spine, is not a benign procedure and that the evidence base for this practice is equivocal. The most recent Norwegian guidelines for the treatment of suspected spinal injury encourage clinicians to carefully consider whether the patient can self-immobilize,[3] thus avoiding un-needed application of a cervical collar, which may be uncomfortable or incorrectly fitted. Over-immobilization of trauma patients by Emergency Medical Services (EMS) has been described previously, with one small retrospective review finding that 15.8% of patients who were immobilized by EMS had met the criteria for clearance of their spine.[4]

Progress in reaching a unifying, consensus guideline appropriate for the diverse group of clinicians involved in the prehospital care of trauma patients is imminent. However, regional uptake of these new guidelines may be slow as "triple immobilization" may still be considered as a safety anchor by clinicians and it may be perceived as being synonymous with definitive prehospital management of suspected spinal injury. For this reason, the cervical collar is a piece of equipment that can still be found in ambulance vehicles worldwide. In view of emerging guidelines recommending selective spinal immobilization (SSI), for example, using manual in-line stabilization (MILS), it is foreseeable that "triple immobilization" may be subject to organizational governance which may necessitate an evaluation of its monetary burden.

We submitted freedom of information requests to every National Health Service (NHS; London, United Kingdom) Ambulance Trust in the United Kingdom regarding expenditure on cervical collars in the last ten years. We received complete responses from every NHS Ambulance Trust in England, Scotland, and Wales (n = 13) for 2015-2016. Total expenditure over this one-year period was £441,103 (US $585,165), and this ranged from £804 (US $1066; Isle of Wight NHS Ambulance Trust) to £71,990 (US $95,591; North West NHS Ambulance Trust).

The burden of spinal cord injury (SCI) following trauma is significant, including social, economic, and psychological sequelae.[5] The potential benefits of SSI must be carefully balanced against the often significant costs of litigation following SCI which is allegedly mismanaged in the prehospital phase. The use of SSI could potentially reduce time for transfer to hospital and for definitive investigation and treatment.

Nonetheless, cervical collars may still have an important role in certain prehospital scenarios, such as when the patient cannot self-immobilize and when there are limited personnel available to employ MILS. Furthermore, the movement against the routine use of collars in the prehospital phase should not be misconstrued as an attack on collars in general, as they have a prominent in-hospital role, for example, as part of neurosurgical treatment and rehabilitation. We hope that the results of this enquiry add some additional context to on-going discussions regarding prehospital spinal injury best-practice.

Sincerely,

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