THE ROLE OF CERVICAL PEDICLE SCREW (CPS) IN CERVICAL SPINE TRAUMA: AN UPDATE AND REVIEW.

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INTRODUCTION: Placement of pedicle screw in the subaxial cervical spine is a challenging and complex technique but provides significant biomechanical advantages. Despite its potential complications, the role and use of cervical pedicle screw (CPS) is growing.

MATERIALS AND METHODS: Literature review of the significant articles regarding the application of pedicle screws in the subaxial cervical spine was done (articles between 1994 and 2020). Furthermore, our center’s experience of 15 years related with CPS is also discussed in this study.

RESULTS: Transpedicular instrumentation in the subaxial cervical spine requires profound anatomical knowledge and thorough surgical technique. This technique provides superior biomechanical stability as compared to the other cervical fixation techniques. Pull-out strength of CPS is twice as compared to the lateral mass screws. There have been numerous variations in the technique of CPS varying from open techniques, minimal invasive and use of biomodels and templates during this procedure. Clinically, CPS can be used in different cervical trauma situations, such as fracture-dislocations, floating lateral mass and fractures associated with ankylosing spondylitis. Despite the possibility of neurovascular injury due to the proximity of vertebral artery, spinal cord and spinal nerves to the cervical pedicles, scientific literature and our center’s experience show low risk, and this technique can be performed safely.

CONCLUSION: Cervical pedicle screw placement is a safe procedure, and it has great potential in the management of cervical spine trauma.

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