OC-105 - (23824) - EVALUATING PEDICLE AND VERTEBRAL ARTERY RELATIONSHIP IN CERVICAL PEDICLE SCREW SURGERY USING DSA: PRELIMINARY REPORT

H.M. Altintaş (Turkey)[1]; G. Cingöz (Turkey)[1,4]; A. Köksal (Turkey)[2,3]; B. Tuğtağ Demir (Turkey)[1]; B. Bilecenoğlu (Turkey)[1]

1 - Department of Anatomy, Faculty of Medicine, Ankara Medipol University; 2 - Department of Radiology, Faculty of Medicine, Atılım University; 3 - Department of Radiology, Private Bayındır Hospital; 4 - Department of Anatomy, Institute of Health Sciences, İstanbul Medipol University

Hilal Melis Altintaş
ANKARA

Gözde Cingöz
ANKARA

Ali Köksal
ANKARA

Berin Tuğtağ Demir
ANKARA

Burak Bilecenoğlu
Ankara

There is no conflicts of interest.
Cervical pedicle screw surgery is a treatment method that corrects deformities and stabilizes the spine. Variations in cervical vertebral pedicles and the course of the vertebral artery require a detailed anatomical understanding of this region prior to surgery. This study aims to assess the positional relationship between the vertebral artery and the pedicle using various measurement techniques on Digital Subtraction Angiography (DSA) images to prevent neurovascular complications during surgery.
The study includes head and neck angiographic images from 60 healthy individuals without cervical deformities. Measurements were taken of the angles of the transverse foramen and pedicle relative to the vertebral body at the C3, C4, and C5 vertebrae, the vertical and transverse diameters of the transverse foramen, the distance between the vertebral artery and pedicle, pedicle width, and the diameters of the vertebral artery.
The vertebral body-pedicle angles at C3, C4, and C5 were measured as 5.41±3.5, 14.06±3.82, and 4.21±4.25 on the right side, and 14.75±3.03, 3.25±3.71, and 13.88±4.47 on the left side. The distance between the vertebral artery and pedicle was 0.74±0.33, 0.76±0.3, and 0.97±0.4 on the right side, and 0.79±0.36, 0.84±0.47, and 0.96±0.42 on the left.
There is no single gold standard technique for cervical screw placement. The success of screw placement depends on the surgeon’s ability to determine the ideal entry point and trajectory, both of which require meticulous preoperative planning. These measurements will assist in preoperative planning and guide the surgeon during surgery.

Palavras-chave : Pedicle screw surgery, vertebral artery, vertebral pedicle