

ABSTRACT

**ANTHROPOMETRICAL MEASUREMENT OF C2 LATERAL MASS FOR C2
STRAIGHT LATERAL MASS SCREW FIXATION IN SURABAYA**

C2 straight lateral mass fixation is a technique that can be used for cervical fixation in patients with spinal cord compression and vertebral artery anomalies by inserting shorter screw on the lateral mass of the C2 vertebrae from the posterior direction. There are still a few references about anatomical studies to understand the characteristics of screw required in this technique. This research was aimed to measure the lateral mass length of the C2 vertebrae for the C2 straight lateral mass screw fixation technique.

This was an observational descriptive study with a cross sectional design that observed CT Scan imaging of the cervical region. CT Scan showing a disorder of cervical region was excluded. Observations were performed using the RadiAnt DICOM Viewer application. The measurements were conducted from the sagittal view. Posterior longitudinal ligament (PLL) was marked, then the length was measured from the posterior point to the point parallel to the Posterior Longitudinal Ligament (PLL). The initial means were measured on the right and left sides, and the final mean was the total average of both sides.

From 10 samples, right lateral mass lengths of the C2 vertebrae give the mean of $13,511 \pm 1,081$ millimeters, the left side give the mean of 13.446 ± 1.396 millimeters, and the final mean of 13.488 ± 1.216 millimeters. Decimal rounding results a mean of 13.5 ± 1.2 millimeters.

From the result, it can be concluded that the mean of C2 lateral mass length in population in Surabaya is $13,5 \pm 1.2$ millimeter.

Keywords: C2 lateral mass, C2 straight lateral mass screw fixation