Spinal cord termination in adult Africans: relationship with intercristal line and the transumbilical plane

Abstract:

The level of cord termination and level of vertebral intersection of intercristal line and transumbilical plane (TUP), frequently used landmarks, show ethnic variation. The relationship of the spinal cord termination to these lines is vital in spinal surgery and anesthesia, but data on these parameters are scarce in the African population. The purpose of this work is to determine the level of cord termination and establish its relationship with intercristal line and TUP. One hundred and twelve specimens obtained from the department of Human Anatomy at the University of Nairobi were used in this study. The conus medullaris was exposed by laminectomy and its vertebral level together with those of intercristal line and TUP recorded. The distance of conus medullaris from intercristal plane was measured in millimeters. Data obtained were coded and analyzed using Statistical Package for Social Sciences (SPSS) for windows version 16.0 Chicago, Illinois, 2002. Student's t-test was used in the statistical assessment of gender differences. A P value of less than 0.05 was considered significant. The median level of termination of the cord was the upper third of L2, 51.9% of cases terminating below this. There was no statistically significant gender difference in the level of termination of the cord. The intercristal plane passed through L4/L5 disc (70.9%) and below (29.1%). The TUP corresponded with intercristal line in 78.2% of subjects. The mean distance of the spinal cord termination from intercristal line was 99 +/- 24 mm. The spinal cord terminates at or below the upper third of L2. Care should be exercised during lumbar punctures and spinal epidural anesthesia among Africans. Intecristal line and TUP are safe landmarks to use in location of conus medullaris.