

Ponticuli of Atlas Vertebra: A Study in South Coastal Region of Andhra Pradesh

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Abstract : Introduction: A bony bridge extends from the lateral mass of the atlas to postero medial margin of vertebral artery groove, termed as a posterior bridge of atlas or posterior ponticulus. The foramen formed by the bridge is called as arcuate foramen or retroarticular superior. Another bony bridge sometimes extends laterally from lateral mass to posterior root of transverse foramen forming an additional groove for vertebral artery, above and behind foramen transversarium called Lateral bridge or ponticulus lateralis. When both posterior and lateral are present together it is called as Posterolateral ponticuli. Aim and Objectives: The aim of the present study is to detect the presence of such Bridge or Ponticuli called as Lateral, Posterior and Posterolateral reported by earlier investigators in atlas vertebrae. Material and Methods: The study was done on 100 Atlas vertebrae from the Department of Anatomy Narayana Medical College Nellore, and also from SVIMS Tirupati was collected over a period of 2 years. The parameters that were studied include the presence of ponticuli, complete and incomplete and right and left side ponticuli. They were observed for all these parameters and the results were documented and photographed. Results: Ponticuli were observed in 25 (25%) of atlas vertebrae. Posterior ponticuli were found in 16 (16%), Lateral in 01 (01%) and Posterolateral in 08(08%) of the atlas vertebrae. Complete ponticuli were present in 09 (09%) and incomplete ponticuli in 16 (16%) of the atlas vertebrae. Bilateral ponticuli were seen in 10 (10%) and unilateral ponticuli were seen in 15 (15%) of the atlas vertebrae. Right side ponticuli were seen in 04 (04%) and Left side ponticuli in 05 (05%) of the atlas vertebrae respectively. Interpretation and Conclusion: In the present study posterior complete ponticuli were said to be more than the lateral complete ponticuli. The presence of Bilateral Incomplete Posterior ponticuli is higher and also Atlantic ponticuli. The present study is to say that knowledge of normal anatomy and variations in the atlas vertebra is very much essential to the neurosurgeons giving a message that utmost care is needed to perform surgeries related to craniovertebral regions. This is additional information to the Anatomists, Neurosurgeons and Radiologist. This adds an extra page to the literature.

Keywords : atlas vertebra, ponticuli, posterior arch, arcuate foramen

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