

Vascular Foramina of the Capitate Bone of the Hand - an Anatomical Study

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Abstract : Background: The capitate is the largest among the carpal bones. There exists no literature about the vascular foramina of the capitate bone. The objective of the present study was to investigate the morphology and number of the nutrient foramina in the cadaveric dried capitate bones of the Indian population. Methods: The present study included 59 capitate bones (25 right sided and 34 left sided) which were obtained from the gross anatomy laboratory of our institution. The bones were macroscopically observed for the nutrient foramina and the data was collected with respect to their number. The tabulation of the data and analysis were done. Results: All of our specimens (100%) exhibited the nutrient foramina over the non-articular and articular surfaces. The foramina were observed at the medial, lateral, palmar and dorsal surfaces of the capitate bones. The foramina were ranged from 6 to 23 in each capitate bone. In the medial surface, the foramina ranged from 1 to 6, lateral surface from 0 to 7, the foramina ranged between 0 and 5 in the palmar surface. However most of the foramina were located at the dorsal surface which ranged from 3 to 11. Conclusion: We believe that the present study has provided additional data about the nutrient foramina of the capitate bones. The data is enlightening to the orthopedic surgeon and would help in the hand surgeries. The knowledge about the foramina is also important to the radiologists to prevent the misinterpretation of the findings in the x ray and computed tomogram scan films. The foramina may mimic like erosions and ossicles. The morphological knowledge of the vasculature, their foramina of entry and number is required to understand the concepts in the avascular necrosis of the capitate.

Keywords : avascular necrosis, capitate, morphology, nutrient foramen

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