

Osteometry of humeri with supratrochlear foramen and their corresponding ulnar

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The aperture that forms on the septum which separates the olecranon from the coronoid fossa of the humerus is known as the supratrochlear foramen (STF). This feature with an ethnicity dependant occurrence can be viewed both on skeletal remains as well as in living humans using X-ray, computed tomography and magnetic resonance imaging methods. Its worldwide prevalence varies between 0.3% and 58%. The presence of the STF was established by visual observation from a South African sample of 538 skeletonized individuals (Blacks, Whites and Mixed ethnic group) with paired humeri (1076). Further, dimensions of humeri and their corresponding ulnar were taken in a separate sample of 219 Blacks. The prevalence of STF in the South African population was 32.5% and predominantly on the left with the highest incidence among Blacks (37.4%) and the smallest incidence in Whites (16%). Females (39%) had a greater frequency of the STF compared to males (26%). Humeri with STF had a smaller epicondylar breadth and smaller circumference at the midshaft as well as at the 25th and 75th percentiles of the shaft. The corresponding ulnar showed the olecranon process to be longer in STF bearing individuals. These findings suggest that gracility of the humerus and the length of the olecranon process have an influence on the presence of the STF. These results have an application in forensic anthropology and osteology and the present study may form a basis for further studies into use of the STF for sexing human remains.

Biography

Robert Ndou is currently doing his Ph.D. at the University of the Witwatersrand, Johannesburg after having completed his Master's degree in Anatomy from the University of Cape Town. His research interests are in the area of forensic osteology, biological anthropology and the musculoskeletal system. At this early stage of his career, he has published several papers reputable peer reviewed journals.

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