

Morphologic aspects of the articular face of the glenoid cavity in the human scapulae: preliminar outcomes

Maman, AS., Lachat, JJ., Zamarioli, A., Homem, JM. and Thomazini, JA.

Universidade de São Paulo

Anatomical variations are frequently observed in the anatomy laboratories. Racial and sexual differences, associated or not to the functional muscle-bone unit, can interfere in the development of bone projections, providing alterations such as size and morphology. These alterations can occur in scapulae and may affect the glenohumeral stability. The purpose of the present study was to investigate and compare the different shapes of the articular face of human glenoid cavity in different sexes and in both sides. We analyzed 200 human scapulae (100 female, 100 male) from Brazilian adults skeletons of unknown age and etnia. The skeletons were exhumed at a Municipal Cemetery in Ribeirão Preto, SP. Semi-elastic odontologic silicon moulds were obtained and filled with acrylic resin to obtain retorts of each glenoid cavity. In each retorts a perimetric line was traced to delimitate the articular face of the cavities to analyze only the surfaces that maintain articular contact with the humerus. Usually the articular face of glenoid cavity has an ovoid shape, whose inferior pole is larger than the superior. The posterior margin is linearly convex and the anterior is concave, with a evident notch in its superior third (glenoid incisure). In this current study, however we could demonstrate that this described morphology is variable and can be subdivided in four different groups, according the shape of anterior margin, superior and inferior poles and the location and presence of the glenoid incisure. These variations were observed in right and left sides, in both sexes. The group 1, represented by 71 samples (35.5%), is characterized by an anterior margin with very evident glenoid incisure, tined superior pole and wide inferior pole. The group 2, represented by 47 samples (23.5%), is characterized by an anterior margin with glenoid incisure still presents, however less evident, tined superior pole and wide inferior pole. The group 3, represented by 43 samples (21.5%), is characterized by articular faces without glenoid incisure in its anterior margin, tined superior pole and wide inferior pole. The group 4, represented by 39 samples (19.5%), is characterized by an anterior margins without glenoid incisure and similar poles, what determines an ellipsoid-shaped form to the articular face with disappearing the ovoid morphology. These results, when compared among sexes and among the sides in the same sex, show until this moment, remarkable anatomical variations regard a clinical importance in order to provide non-surgical reductions of traumatic and atraumatic shoulder luxation or in surgical treatment of fractures or prosthetic component placement.

Financial support: FAEPA.