3

A morphometric study of scapular glenoid cavity

G. Vinay

MES Medical College Perinthalmanna, Kerala, India

Aims and objectives: The knowledge of shape and morphological parameters of glenoid cavity are important in the design and fitting of glenoid components for total shoulder arthroplasty. The variations in normal anatomy of glenoid are important in diagnosis and treating conditions like osseous Bankart lesions and osteochondral defects. The aims were: (i) study the morphometric values of glenoid cavity of scapula; (ii) to compare with similar studies which have been cited earlier.

Material and methods: The present study was carried out on 182 dry, adult human scapulae of unknown sex belonging to south Indian population. Various diameters of glenoid cavity were measured with the help of vernier calliper. The incidence of three different shapes of glenoid cavity was also noted.

Results: The mean superoinferior diameter of right and left scapulae were 32.83 ± 2.94 mm and 32.46 ± 2.78 mm respectively. The average anteroposterior diameter of lower half of right glenoid cavity was 24.76 ± 2.17 mm and that of left glenoid cavity 24.25 ± 2.40 mm. Pear shaped glenoid cavity was more commonly found.

Conclusion: The most common complication of total shoulder arthroplasty is loosening of glenoid component. The glenoid morphology has a prognostic implication on the primary glenohumeral osteoarthritis. The morphometry of glenoid cavity has clinical implication in orthopaedic joint replacement, glenohumeral instability and rotator cuff tear management.

Conflicts of interest

The author has none to declare.

http://dx.doi.org/10.1016/j.jasi.2016.08.011

4

Anatomical correlation with chronic pelvic pain

Shantanu Mallik

DY Patil School of Medicine, Navi Mumbai, Maharashtra, India

Chronic pelvic pain is a biomechanical dysfunction in the pelvic floor, pelvic ring or associated lumbar or abdominal structures. Pelvis contains multiple organ systems with complex overlapping innervation, hence, it is often difficult to identify a single contributor to the pathogenesis. The search for a specific etiology, millions of sufferers has been visiting multiple specialists over time at significant cost, affecting both the patient and the healthcare system. That is why the clinical examination should include a thorough medical, surgical, social and behavioral history as well as the evaluation of each system individually and collective interaction of these systems from thoracic cage to the thigh region. That is why understanding of the specific regional neuroanatomical relationship of the nerve structures is very essential to precision in interventional and rehabilitation management.

Chronic pelvic pain related neuroanatomy is discussed on ganglion impar, genito-femoral, pudendal, iliohypogastric, ilioingunal, and superior hypogastric nerves where diagnostic blocks help to diagnose the cause and long term therapy is being done by radiofrequency ablation therapy. Neuromodulation therapy also has been done in different cases with satisfactory results.

Chronic pelvic pain is a multifactorial entity due to sensitization of autonomic and somatic nerves that innervate various surrounding structures, which is only possible to diagnose through a multidisciplinary approach with a thorough knowledge of anatomy to pinpoint the pain generators, to manage accordingly.

Conflicts of interest

The author has none to declare.

http://dx.doi.org/10.1016/j.jasi.2016.08.012

5

Branching patterns of thyrocervical trunk

V. Lokanayaki*, S. Seshaiyyan

Madras Medical College, Chennai, Tamilnadu, India

Aims and objectives: Since the subclavian artery and its branches are involved in so many clinical instances, the study of the variations in the origin and branches of thyrocervical trunk was selected for analysis.

Material and methods: In 40 adult cadavers of unknown sex and 10 dead fetuses, the subclavian artery was exposed using conventional dissection method and the branching pattern was studied.

Results and conclusion: The number of branches varied from one to four in study of both adult and foetuses. Since many neurovascular structures are closely related to thyrocervical trunk and its branches, this study will be useful clinically.

Conflicts of interest

The authors have none to declare.

http://dx.doi.org/10.1016/j.jasi.2016.08.013

6

Study of the size of the coronoid process of mandible

Sunita Nayak*, S. Patra, G. Singh, C. Mohapatra, S. Rath

SCB Medical College, Cuttack, Odisha, India

Aims and objectives: The mandible serves as an important structure providing attachments to all the muscles of mastication. The coronoid process – the anterior bony projected part of ramus of mandible gives attachment to two important muscles of mastication. The aim of this study was to observe variations in the size of coronoid process in relation to its side, shape, age and sex.

Material and methods: The material for the study comprised 160 dry human mandibles grouped on criteria of age and sex, from the osteology bank of anatomy department, S.C.B. Medical College, Cuttack.

Results: The size of coronoid process was found to be approximately 1.5 mm longer on the right than on the left side; 0.01 mm longer in males than females; and 0.01 mm longer in dentulous than in edentulous specimens. Triangular coronoid process was found to be the longest followed by round and then hook-shaped.

Conclusion: This study – a pioneer one study will be of immense value for the anthropologists, forensic scientists and reconstructive surgeons.

Conflicts of interest

The authors have none to declare.

http://dx.doi.org/10.1016/j.jasi.2016.08.014

7

Morphological variations in the shape of the mandibular coronoid process and its clinical implications

Ritika M. Patel*, M.M. Patel

M.P. Shah Govt. Medical College, Jamnagar, Gujarat, India

Aims and objectives: To observe incidence of various shapes of the coronoid process of mandible and its correlation with age and sex.

Material and methods: The morphological observation of shapes of coronoid process of both sides was carried out on total 99 mandible collected from M.P. Shah Government Medical College, Jamnagar, Gujarat. The incidence was observed in both the sex and in different age groups.

Results: The shape of the coronoid processes was classified into hook, triangular and round. The incidence of hook shape was 30.81%, triangular shape 43.94% and round shape 25.25%. The incidence of triangular shape was highest in both sexes. The incidence of hook shape was higher in males (33.86%) than in females (25%) whereas the incidence of round shaped coronoid process was more in females (32.35%) than in males (21.54%). The incidence of round shape (66.67%) was higher in young age while triangular shape (48.57%) was more in adult and hook shape (40.74%) was more in old age. The results were compared with those of earlier workers.

Conclusion: The triangular coronoid process was most common present in both males and females. As age advances the shape of the coronoid process gradually changes from round to triangular, and/or to hook shape. The present study will be helpful for maxillofacial surgeons, and also in anthropological and forensic studies.

Conflicts of interest

The authors have none to declare.

http://dx.doi.org/10.1016/j.jasi.2016.08.015

8

Anatomical study of variations in the branching pattern of aortic arch

G. Sreedevi*, K. Krupadanam, R.S. Muralidhar

NRI Medical College, Chinakakani, Guntur, India

Aims and objectives: The aim of the present work is to study the branching pattern of arch of aorta, which will provide an anatomical basis for surgeons in performing safe vascular surgery involving the arch of aorta. Knowledge of these variations in branching pattern of arch of aorta is highly vital for vascular surgeons.

Material and methods: The present work consists of 50 aortic arches (45 male and 5 female) carefully dissected from embalmed human cadavers available in the department of anatomy, NRI Medical College, Chinakakani and nearby medical colleges from 2012 to 2015.

Results: In the present study, the most common branching pattern is three major branches, the brachiocephalic trunk, left common carotid artery and left subclavian artery arising independently from the arch of aorta. It is observed in 43 (86%) out of 50 specimens. Other variations in the branching pattern were observed in 7 (14%) out of 50 specimens. The clinical significance and embryological basis of these variations are discussed.

Conclusion: Keeping abreast with the latest tendencies of the variations of the aortic arch is utmost essential for clinicians and CT surgeons, as the prior identification of these vascular anomalies through diagnostic interventions is crucial, in order to avoid complications during heart and vascular surgeries.

Conflicts of interest

The authors have none to declare.

http://dx.doi.org/10.1016/j.jasi.2016.08.016

9

Anatomical basis of femoral component sizing of total knee arthroplasty

Anil Kumar Dwivedi

Veer Chandra Singh Garwali Medical Science and Research Institute, Uttarakhand, India

Aims and objectives: Quantitative knowledge of distal femur articular surface geometry is critical to understand the relationship between anatomy and function of knee joint. It is also the foundation for total knee arthroplasty. There are metric differences in skeletal components among various populations. Most implants were designed and manufactured for the western population. The use of such implants in India may not be appropriate.

Material and methods: The present study was conducted on 202 adult human femora. Femoral notch width, medial lateral width and anterior posterior length was measured. Mean and SD of these values were calculated and compared with those reported in western literature.

Results: Values in present study are smaller than those in western counterparts. The mean antero-posterior length in the present study was 56.47 mm. The mean medial lateral width in the present study was 69.73 mm, which was smaller ($p < 0.05$) than earlier reported in western population.

Conclusion: Regional variation exists in the morphological parameters of distal femur. The data of present study was compared with design and size of knee implant available and commonly used in India. This information will be helpful in designing of implants for Indian population.

Conflicts of interest

The author has none to declare.

http://dx.doi.org/10.1016/j.jasi.2016.08.017

10

Morphological study of ponticulus on posterior arch of atlas vertebrae

Ridhdhish K. Patel*, R.M. Patel, M.M. Patel

M.P. Shah Govt. Medical College, Jamnagar, Gujarat, India

Aims and objectives: The aim of the study was to determine incidence of impression of vertebral artery, posterior ponticulus and lateral ponticulus on posterior arch of the atlas vertebrae.