

Glenoid Labrum Study. Anatomic and Histologic Implications in Bankart Repair

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Glenohumeral joint particular anatomy and biomechanics raise many questions about its implication in the aetiology and pathophysiology of shoulder instability. We proposed ourselves to perform an anatomic and histologic study of the nervous endings and receptor structures inside the glenoid labrum emphasizing the anatomic and neurophysiologic importance of treating Bankart lesions. We performed minute anatomic dissections and harvested glenoid labrum from 47 fresh cadavers with no lesions of the shoulder, at the Anatomy Department of the University of Medicine and Pharmacy from Craiova; we studied micro anatomic the stereo topography of the nervous endings and receptor structures using the Cajal-Nonidez argentic impregnation staining method and we examined the serried section at a Nikon research microscope. We also made in vivo observations of the labrum morphology during shoulder arthroscopy. Our observations revealed: spiral neurofibers and Pacini lamellar corpuscle at the posterior and inferior aspect of the glenoid labrum; grouped neurofibers first described by Rollette at the anterior and superior aspect; encapsulated nervous endings type II (A, B) from Freeman and Wyke classification at the junction area between the labrum and the long biceps tendon. The presence of mechanic receptors inside the glenoid labrum and especially at the insertion of long biceps tendon brings up the idea for the existence of some neuron modulating processes associated to movements with the nervous center at C5-C7 cervical neuromeres. The presence of mechanic receptors inside glenoid labrum opens new perspectives in the knowledge of neurocybernetics mechanisms involved in shoulder joint complex motions; it also emphasize the importance of Bankart repair followed by functional therapy in order to restore and to retrain the damaged proprioceptive reflexes.

Indication and Genotyping of Rotaviruses Group in Children on the Territory Of Ukraine

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According to the literature, diarrhoeal diseases can be caused by viruses that belong to different species (rotaviruses, caliciviruses, intestinal adenoviruses, astroviruses), but rotaviruses are most often the cases of severe diarrhoea with fatal consequences. The aim of the present study was the investigation of rotavirus circulation among children under 5 years old, hospitalized with severe diarrhoea in different regions of Ukraine and rotavirus genotype identification. Stool specimens were selected from 600 young children under 5 year old, hospitalized in 6 Ukrainian regions: South, North, West, East, Center and Kyiv from 2006 to 2009. The detection of rotaviruses (group A) was performed by chromatographic immunoassay (CITO TEST ROTA, Test Biotec. S.L., Spain). All specimens positive for rotaviruses were confirmed and identified by RT-PCR (AmpliSens® Rotavirus-290, InterLabService, Russia). It was shown that proportion of severe diarrhoea, caused by rotaviruses in 5 regions of Ukraine in the period of study was: in the East - 10% in the South - 44,5% in the North - 24,8% in the West - 45,4%, in the Centre - 21,1%. The winter-spring seasonality was confirmed, and it was found that in the age group of children under 3 years the average frequency of rotavirus identification was the highest and amounted to $70,1 \pm 4,0\%$. As a result among 210 positive

samples it was detected G-genotype in 182 cases (86,7%) and P-genotype in 176 cases (83,8%). P-genotype and G-genotype were not identified in 3,3% and 4,3% of samples, respectively. In 5,7% of samples both genotypes were not identified. It was shown that during each epidemic season from 2006 to 2009 in Ukraine G1P[8] was the dominant genotype, which varied from 30% to 80% of all positive samples. The second most distributed genotype was G4P[8] (40%), third - genotype G3P[8] (25%), and the fourth - G2P[8] (11%). During the epidemic period 2006-2009 in Kiev, for the first time genotype G9P[8] was identified in 5% of cases. Thereafter it was found seldom during 2007, then appeared in rare cases. In some clinical samples multiple genotypes were identified: G1P[8] + G3; G1P[8] + G2; G3P[8] + G4. Genetic variant G2P[4] was the cause of rare cases of diarrhoea during the studied period. For the first time the features of rotavirus group A circulation in Ukraine among children under 5 years old were shown. The obtained data of the major rotavirus genotypes has a great importance in deciding the implementation of specific prevention of rotavirus diarrhoea in Ukraine.

Investigation of Antibiotic Resistance in Enterobacteriaceae, Acinetobacter and Candida Species

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An increased level of hospital infections resistance and emergence of new resistance mechanisms in the conditions of widespread antibiotics use makes serious demands to the quality of laboratory diagnostics and organization of microbiological monitoring. The objective of the research: to determine the frequency of the resistant to antibiotics strains of Enterobacteriaceae, Acinetobacter and Candida species; with the help of phenotypic methods to identify the production of extended-spectrum b-lactamases (ESBL) of different classes and other enzymes and mechanisms providing resistance. Material for the investigation was presented with 102 strains of *K. pneumoniae*, *E. coli*, *A.baumannii* and *Candida* spp., selected from the patients with different pathology treated in therapeutic departments. The determination of selected isolates was performed with the help of disk-diffusion method according to the recommendations of Clinical and Laboratory Standards Institute (CLSI). For identification and results control of the sensitivity identification an automatic system Vitek 2 (Bio Merieux) was used. 27% of the Enterobacteriaceae and Acinetobacter strains showed resistance to penicillins, 3d and 4th generations of cephalosporins and sensitivity to cephamycins what confirms the production of ESBL belonging to molecular class A. 16,7% of the same bacteria were resistant to 3d and 4th generations of cephalosporins, cephamycins, so to reveal ESBL of C AmpC type. 8,3% of the strains that appeared to be *Acinetobacter baumannii*, produced carbapenemases and in this regard were characterized by a high resistance level to 3d and 4th generations of cephalosporins and carbapenems. 16,7% of the strains produced penicillinases and 2,1%- cephalosporinases. Aminoglycoside-modifying enzymes were found in 33,3% cases. Resistance to fluorquinolones was equal to ciprofloxacin, norfloxacin and ofloxacin and was noticed in 38, 5% of the tested strains. *Candida* species were more resistant to azole antifungal drugs (50% of fluconazole-resistant strains) then to polyens (20, 3% nystatin-resistant) according to disk-diffusion method. The results of *Candida* resistance obtained from disk-diffusion method were not confirmed by the following Vitek study that can be explained by the absence of CLSI disk-diffusion method recommendations for non-albicans strains.