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Ultrasonic characteristics of herniated intervertebral cervical discs in older children

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Aim: To study the semiotics of the herniated intervertebral disks (IVD) of the cervical spine in older children using ultrasonography (US).

Materials & Methods: The study included the results of ultrasound examination of 19 children with degenerative changes of the IVD with violation of the integrity of the fibrous ring (FR) and involvement of the elements of the vertebral canal (VC) in the pathological process. In total, 114 IVD were examined, of which changes were detected in 61 (53.5%) disks. US was conducted at the level of disks C2-C3, C3-C4, C4-C5, C5-C6, C6-C7, C7-Th1. Diagnosis of hernia of the IVD was based on the evaluation of the structure of the pulp nucleus (PN) and FR, registration of the FR rupture, narrowing of the PN and radicular canals.

Results: Herniated discs were detected in children aged 16-18 years. Hernia is diagnosed in 19 (16.7%) disks. The rupture occurred in the posterior part of the discs, the free fragment of the PI ripping the thin sheet of the posterior longitudinal ligament, got into the epidural space, being located next to the veins of the epidural plexus. In 8 (42.1%) cases, hernia was formed at the level of C5-C6, in 6 (31.6%) - at the level of C4-C5, in 3 (15.8%) - at the level of C2-C3 and in 2 (10.5%) of cases at the level of C6-C7. The most frequently recorded paramedian hernia - in 12 (63.2%), then the median - in 5 (26.3%) cases and less often in the posterolateral - in 2 (10.5%) cases. The greatest decrease in the sagittal size of the PN was observed with the median size, and the cross-sectional area with the paramedian hernia (fig 1, 2)

Conclusions: Ultrasound examination is an alternative method of diagnosing herniated intervertebral cervical discs in older children that allows determining the form and level of localization of the degenerative process.

Biography

R Y Abdullaev is currently working in the Department of Clinical Trials, Hematology, Radiology in Kharkiv Medical Academy of Postgraduate Education. He has published numerous research papers and articles in reputed journals and has various other achievements in the related studies. He has extended his valuable service towards the scientific community with his extensive research work.

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