

Conclusions: The ultrasound examination of gastrointestinal tract is a useful tool for localization of abnormalities, allows the initial differential diagnosis, assessment of local expanse of the disease and detection of other abdominal complications.

USUFULNESS OF ULTRASOUND EXAMINATION IN DIAGNOSIS OF NECROTIZING ENTEROCOLITIS

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Background. Necrotising enterocolitis (NEC) is one of the most serious disorders of the gastrointestinal tract in the neonatal period. If there is a clinical suspicion of NEC, early diagnosis and adequate treatment are essential. Plain abdominal radiography is the current modality of choice for the initial evaluation of gastrointestinal tract in neonates, however, when the diagnosis is unclear abdominal sonography with bowel assessment might be an important complementary study. The aim of the study was the evaluation of usefulness of the ultrasound examinations in diagnosis of NEC and their value for implementation of proper treatment.

Material and methods. In retrospective analysis the data of nine neonates hospitalized in Provincial Hospital No.2 in Rzeszów, in the period from September 2009 to April 2013 with recognized NEC were analyzed. Apart from the abdominal radiography in all nine cases the abdominal ultrasound with bowel assessment was performed. Images findings, epidemiological data, co-existing risk factors and course of disease were assessed.

Results. Most children in the assessed group were preterm infants. Images findings in plain abdominal radiography were normal or nonspecific. In all ultrasound examinations findings of wider spectrum were observed and pneumatosis intestinalis which is pathognomonic sign in NEC was recognized more often than in plain abdominal radiography. The treatment of most of the children was surgical intervention with resection of necrotic bowel loops and in more than half of the cases the localization of changes during surgery was complementary with findings in ultrasound examinations.

Conclusions. Abdominal ultrasound examination might be helpful in recognizing NEC especially when the plain abdominal radiography findings do not correlate with clinical changes although abdominal radiography is still recognized as the modality of choice. The range of morphological changes which can be detected on ultrasound is much wider than in plain abdominal radiography. The ultrasound examination allows to assess the stage of changes within intestines and adjacent tissues more accurately which is helpful for clinicians to make therapeutical decisions more accurate and easier and allows for implementation of proper treatment.

CHARACTERISTICS AND DISTINCTIVENESS OF MULTIPLE SCLEROSIS IN CHILDREN IN MAGNETIC RESONANCE IMAGING

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Background. Multiple sclerosis (MS) in children is a demyelinating disease of a central nervous system (CNS), which clinical symptoms and results of imagining examinations differ from those found in adults, and therefore requires different criteria of diagnosis. The chosen method of MS imaging in children is magnetic resonance imaging (MRI). The purpose of the thesis was to present the characteristics of pediatric MS in MRI brain scan.

Materials and methods. MRI brain scans of 20 children aged 11-17 with diagnosed MS were analysed. The compliance of MRI brain scans with KIDMUS criteria from 2008 was stated along with the location and morphology of plaques of demyelination.

Results. In the examined group all three KIDMUS criteria were met by 45% of children required for MS diagnosis, two criteria by 50% of children. The average size of the demyelination plaque was 9mm. Major foci were not stated. 95% of lesions were located in circumventricular white matter, 40% of lesions in brainstem, 25% in cerebellum and 5% in thalamus.

Conclusions. The image of changes in MRI brain scan in children presents a wide array of differences, the greater cognition of which is indispensable in order to diagnose properly and therefore to implement the suitable treatment. It is particularly crucial in this age group due to an early progression of disability.

DIAGNOSTIC IMAGING AND PROBLEMS OF SCHIZENCEPHALY

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Background. Schizencephaly is a rare developmental malformation of the central nervous system associated with cell migration disturbances. Schizencephaly can be uni or bilateral and is divided into two morphological types. The