Pneumatosis intestinalis in acute mesenteric ischemia

Ghidirim Gheorghe[1], Misin Igor[1,3], Crăciun Ion[1], *Cutitari Irina[2]

[1]Laboratory of Hepatic-Pancreatic-Biliary Surgery Nicolae Anestiadi, Department of Surgery
[2]Department of Radiology and Imaging, Nicolae Testemitsanu State University of Medicine and Pharmacy
[3]Institute of Emergency Medicine, Chisinau, the Republic of Moldova
*Corresponding author: icutitari@gmail.com

Background: One of the radiological signs of acute arterial mesenteric ischemia (AMI) according to data of Multi-spiral Computed Tomography with angiography (MCTA) is pneumatosis intestinalis (PI). Taking into consideration absence of reliable information on the pathophysiology of PI, we performed a comparison of radiological data and morphological studies of the resected bowel wall segments.
Material and methods: We analyzed MCTA images of 15 patients with arterial AMI (men-9, women-6; average age – 71.1±3.5 years (95% CI: 63.64–78.49).
Results: PI was determined in all cases of AMI: type I (bubbly-like) was diagnosed more frequently ($p<0.01$) than type II (semilunar) and constituted 11(73.3%) vs. 4(26.7%) cases, respectively. During histological evaluation of bowel wall tissues, a number of particularities of these phenomena were revealed: (1) PI in all cases of AMI was associated with necrosis and desquamation of bowel mucosa; (2) morphologically they have a "honeycomb" appearance and are localized predominantly in perivascular areas; (3) the pattern of spreading – from mucosa to serosa layer, distinguish it from "benign" forms of PI. Also, it was determined that type I PI was associated with transmural necrosis of the bowel wall in 63.6% cases, whereas in type II PI – in 100% cases ($p<0.05$). Diagnostic value of this sign (PI) in arterial AMI constituted: Se, Sp, PPV, NPV=100%.
Conclusions: MCTA should be considered a method of choice for diagnosis of AMI. PI should be considered as a specific radiological sign of AMI. PI type II is associated in all the cases with transmural bowel wall necrosis.
Key words: computed tomography, acute mesenteric ischemia, pneumatosis intestinalis.

Associated complications of congenital aortopathies in children

***Gavriliuc Natalia[1,2], Palii Ina[1,2], Esanu Veronica[1,2], Caraman Anatolie[2]**

[1]Nicolae Testemitsanu State University of Medicine and Pharmacy
[2]Institute for Mother and Child Health Care, Chisinau, the Republic of Moldova
*Corresponding author: natagavriliuc@yahoo.com

Background: Congenital aortopathies include a variety of disorders such as aortic stenosis, aortic coarctation, bicuspid aortic valve. The overall mortality rate following complications is 2.49-2.78 per 100,000 population. The study aimed to assess the factors with potential for development of complications in congenital aortopathies in children.
Material and methods: The study included 71 children aged from 1 month to 18 years (mean age of 9.26 ± 0.82 years). The ratio of girls to boys was 1:2. A total of 55 children were from rural areas and 16 were from urban areas.
Results: Echocardiographic data and the Z score revealed distinct aortic dilatation in 30 children, the most common site of dilation being the Valsalva sinus (26.03 ± 1.24, $p<0.005$). The most common pathologies associated with aortic dilatation were aortic coarctation and bicuspid aortic valve (accounting for 63.33% cases), followed by aortic stenosis (30% cases) and genetic diseases affecting the aortic wall structure (6.67% cases).
Conclusions: Aortic dilatation is commonly encountered in congenital aortopathies and can lead to life-threatening complications such as aortic aneurysms, aortic dissection and rupture. Early diagnosis and close follow-up are essential in this situation.
Key words: Congenital aortopathies, aortic dilatation, children.

Ovarian mucinous cysts in children and adolescents

Misina Ana[1], Harea Patricia[1], Madan Diana[1], Fuior-Bulhac Liliana[2], *Cutitari Irina[3]

[1]Department of Surgical Gynecology, [2]Imaging Unit, Institute for Mother and Child Health Care
[3]Department of Radiology and Imaging, Nicolae Testemitsanu State University of Medicine and Pharmacy
Chisinau, the Republic of Moldova
*Corresponding author: icutitari@gmail.com

Background: Mucinous ovarian cysts (MOC) in children and adolescents are extremely rare. The study aimed to determine the particularities of imaging diagnosis, surgical treatment and morphological characteristics of MOC in pediatric patients.
Material and methods: We performed a retrospective analysis of pediatric patients (≤ 19 years) with ovarian tumors (n = 117) treated at the Institute for Mother and Child Health Care from 2000 to 2017. The diagnosis was confirmed by immunohystochemical analysis with monoclonal antibodies for cytokeratin 7 (CK-7), cytokeratin 20 (CK-20) and CEA.