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Differential diagnosis of hemorrhagic colitis syndrome in children

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Acute intestinal infections, occurring with hemorrhagic colitis (hemocolitis), constitute a group of relatively dangerous and at the same time varied in etiological composition of infectious diseases.

Relevance:

Regardless of the region of the world, the appearance of loose stool mixed with blood in a child is considered by doctors as one of the emergency conditions that require qualified medical care, comprehensive laboratory and instrumental diagnostics, and often hospitalization in a 24-hour hospital. The relevance of hemocolitis in pediatric practice is associated with the difficulties of differential diagnosis due to the growth of inflammatory bowel diseases, the unreasonable prescription of antibacterial therapy and, accordingly, the development of antibacterial resistance.

Invasive diarrhea occurring with hemocolitis syndrome caused by Salmonella, Shigella, Campylobacter, E. coli 0157: H7, Clostridioides (formerly Clostridium) difficile are the most common, Escherichiosis, The diagnosis of infectious etiology is made by isolating the microorganism from the stool using a bacteriological method or PCR method.

Also a common non-infectious pathology causing hemocolitis in young children is FPIAP, which manifests itself as hemocolitis or persistent diarrhea streaked with mucus in infants who are otherwise often healthy. It is usually caused by proteins in cow's milk and sometimes by soy or other food proteins that are ingested through breast milk or standard infant formulas. Food protein-induced allergic proctocolitis (FPIAP) is characterized by inflammation of the distal colon in response to specific food proteins by a mechanism that does not involve immunoglobulin E (IgE). For most patients, FPIAP is a clinical diagnosis based on typical symptoms. If bleeding is present, other causes of hemocolitis should be ruled out through a careful history and physical examination. In particular, the examination should include a thorough examination of the anus for the presence of fissures, which are also a common cause of isolated rectal bleeding. The diagnosis of FPIAP is presumably confirmed if symptoms resolve after discontinuation of the suspected food antigen. An example is a clinical case of a child with this pathology.

Clinical case:

Patient 8 months old. Complaints upon admission: loose stools up to 5-6 times, watery, yellow in color, with mucus and streaks of blood, undigested food.

From the medical history:

Ill for 6 days, the disease began with catarrhal symptoms and conjunctivitis, received symptomatic treatment. On the fifth day, signs of diarrhea with hemocolitis appeared, and therefore he went to the infectious diseases hospital and was hospitalized in the intestinal department.

Life history: without any features

Previous illnesses: not frequent ARVI.

Epidemiological history: Denies contact with an infectious patient. Denies traveling outside the Kazakhstan over the past month. Denies contact with infectious/febrile patients. Artificially fed baby. The rules for storing the mixture are not followed.

Allergic history: allergic rash to cow's milk protein from 2 months.

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Objective status upon admission.

The general condition is of moderate severity due to intoxication syndrome, intestinal syndrome. There are no signs of exicosis. Fever is at febrile levels. Appetite is reduced and he drinks fluids well. There is no thirst. There was no vomiting. The physique is correct. The food is satisfactory. The skin has a physiological color and is clear of rashes. Capillary refill speed less than 3 sec. Visible mucous membranes are moist and clean. Salivation is sufficient. The eyes are not sunken. On auscultation, breathing is puerile, no wheezing is heard. RR-39 per minute. There is no shortness of breath. Heart sounds are loud, the rhythm is correct, heart rate is 129 beats. per minute The abdomen on palpation is soft, painless, not swollen, the sigmoid is not spasmodic. There are no symptoms of peritoneal irritation. The liver and spleen are not enlarged. Urination is free and painless. The stool is yellow, watery, with mucus and streaks of blood in each portion.

Laboratory parameters

CBC upon admission to hospital	CBC upon discharge from hospital
ESR - 8.0 mm/h;	ESR - 9.0 mm/h;
Band neutrophils- 4.0%;	segmented neutrophils - 31.0%;
Segmented neutrophils- 48.0%;	monocytes - 9%;
monocytes - 8%;	lymphocytes- 60.0%;
lymphocytes- 40.0%;	HCT- 42%;
HGB - 117 g/l;	HGB- 140 g/l;
RBC- 3.70 / l;	RBC- 4.50 / l;
WBC - 11.80 / l;	WBC- 8.90 / l;
HCT- 34%;	HCT - 42%;
PLT - 302 / l;	PLT- 434 / l;

Bacteriological examination of feces for pathogenic and conditionally pathogenic microflora, type of microorganism - Staphylococcus aureus - 10⁶;

General urine analysis is within normal limits.

Oral rehydration with ORS

For antibacterial purposes according to IMCI - Ciprofloxacin 80 mg x 2 times a day. As therapy is started, the symptoms of hemocolitis progress. Stool without feces, only mucus and blood present in the stool. Therefore, the antibacterial drug was replaced with Ceftriaxone 0.75 g x 1 time per day. On the fourth day the condition improved. The symptoms stopped on the 6th day of the disease. On the 8th day, his condition improved and he was discharged home.

Final diagnosis at discharge:

He was undergoing inpatient treatment with a diagnosis of acute intestinal infection with gastroenterocolitis (hemocolitis), conditioned Staphylococcus aureus 10⁶st, moderate severity for 7 days.

However! After 3 weeks, they returned to the infectious diseases center against the background of complete well-being; signs of hemocolitis reappeared, without signs of acute respiratory viral infection, without intoxication syndrome, the general condition of the child was satisfactory, and there was no pathology in organs and systems.

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The patient was redirected to the gastroenterology department, where during the course of treatment a diagnosis of Food protein-induced allergic proctocolitis was made and an improvement in the condition occurred after changing the baby's formula without antibacterial therapy.

Conclusions:

Thus, the main causative agents of acute intestinal infections with hemocolitis are campylobacter and shigella. Issues of hemocolitis in children, especially under one year of age, require a careful approach to differential diagnosis in order to avoid unnecessary antibiotic therapy.

Biography

In 2000 in the city of Alma-Ata (Kazakhstan), she defended her dissertation for the degree of Candidate of Medical Sciences on the topic: «Clinical and biochemical characteristics of brucellosis in children and pathogenetic therapy». In 2000 awarded scientific degree of candidate of medical sciences by the decision of the dissertation council at the Kazakh State Medical University named after S.D. Asfendiyarova. In 2018 she was transferred to the position of professor at the Department of Epidemiology and Infectious Diseases. 75 articles and abstracts have been published in well-known journals.