



## Gastrointestinal hemorrhage in a 21-month-old girl in the course of lymphonodular hyperplasia (LNH). Case report

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### ABSTRACT

Gastrointestinal hemorrhage is an emergency condition requiring immediate diagnostics. The case of a 21-month-old girl is presented with massive bleeding from the lower gastrointestinal tract in the course of lymphonodular hyperplasia. Lymphonodular hyperplasia, as a cause of bleeding from the gastrointestinal tract in children, is a rarely observed pathology of unknown etiology.

**Keywords:** lymphonodular hyperplasia, gastrointestinal hemorrhage, children

### INTRODUCTION

Bleeding from the gastrointestinal tract in children is always an alarming symptom and requires a detailed, sometimes urgent diagnostics. In children, it is characterized by slightly different symptoms and may be due to systemic diseases. According to location, with respect to the ligament of Treitz, it is divided into bleeding from the upper (above the ligament) and lower (below the ligament) part of the gastrointestinal tract. Diffuse nodular lymphoid hyperplasia is a rare pathology with not quite known etiology, and its symptom may be rapid gastrointestinal hemorrhage [1].

### CASE DESCRIPTION

The case of a 21-month-old girl is described, admitted to the Pediatric Clinic due to massive bleeding from the lower gastrointestinal tract, which occurred suddenly in the state of complete health. After admission, the child was in a general good condition, without features of infection. In auxiliary examinations, no inflammatory parameters were observed (CRP – 0.04 mg/dl), and the

blood test showed an increasing anemization (Hb from 9.2 g/dl – 6.2 g/dl; Ht from 27% - 18.4%, E from  $3.25 \times 10^6 / \mu\text{l}$  –  $2.22 \times 10^6 / \mu\text{l}$ ). Biochemical tests results of blood plasma – transaminase, bilirubin, total lipids, albumin, creatinine, urea, glucose, potassium, sodium, calcium remained within the normal range, as well as the coagulation system. A moderately elevated level of immunoglobulin E was noted; specific IgE against cow's milk, hen's egg yolk and hen's egg white; class 0. An infection of the gastrointestinal tract was excluded based on the stool culture tests for infection with the rods of *Salmonella* spp., *Shigella* spp., and enteropathogenic *E. coli* strains. Ultrasound scan of the abdominal cavity did not show any deviations from normal. Radiological image of the abdominal cavity in a standing position showed single fluid levels in the mesogastrium. Endoscopy of the upper and lower gastrointestinal tract was performed as an emergency procedure. Gastroscopic examination did not indicate any deviations from the normal. Colonoscopy showed no organic pathology of the mucosa in the terminal ileum, and the presence of blood in the small intestine was not observed. In the entire large intestine the presence of hemolyzed blood was noted and a massive lymphonodular hyperplasia on the mucosa. Histopathologic tests of the specimens taken from the large intestine confirmed normal pit patterns, mucosal edema, presence of lymph follicles, and numerous apoptotic bodies in the lamina propria beneath the epithelium and in the surface

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epithelium. Antibacterial treatment was applied, and an elimination diet excluding cow's milk. Transfusion of PRBC was performed several times. The girl was discharged in good condition, without symptoms of bleeding from the gastrointestinal tract. She was admitted a month later in order to perform a follow-up rectosigmoidoscopy, which did not show any deviations from the normal.

## DISCUSSION

Lymphonodular hyperplasia (LNH) is a pathology rarely diagnosed in children, which may be concomitant with many diseases and symptoms. It is manifested by the presence of multiple polyposis of the gastrointestinal tract that, in a histologic examination, is diagnosed as activated lymph nodes. They are located in the mucosa, submucosa of all parts of the gastrointestinal tract. The pathogenesis of the disease is unknown. It is probably caused by a defect in the development and maturation of B lymphocytes, and compensatory proliferation of the lymphatic system of various parts of the gastrointestinal tract [1,2]. Among the etiopathogenetic factors, immune disorders, infectious and allergic factors are taken into consideration. The diseases accompanying lymphonodular hyperplasia may be non-specific enteritis, alimentary allergy, thyroid diseases, pancreatic diseases, dermal changes (erythema nodosum), and selected forms of child's autism [5,6,7]. Diffuse lymphonodular hyperplasia in the intestines has also been described in healthy adults and children [1]. In patients with LNH the most frequent symptoms on the part of the gastrointestinal tract are: diarrhea and bleeding from the gastrointestinal tract of varying intensity [4]. Bleeding may come from various parts of the gastrointestinal system; however, it most often concerns the large bowel. They are caused by the presence of multiple erosions and ulcers on the top of enlarged lymphoid follicles (pseudopolyps). Massive hemorrhages may be life threatening states and often require an urgent diagnostics. Such a situation was observed in the patient described. The localization of the source of bleeding is difficult, especially if it concerns the small intestine. When located in the large intestine, the final diagnosis is made based on the endoscopic and histopathologic image. While making the diagnosis of lymphonodular hyperplasia, diagnostics is recommended at least for immune disorders and allergies. Differential diagnostics requires an exclusion of congenital polyposis syndromes and diseases which may produce

a similar endoscopic image. The treatment is usually symptomatic. Immunodeficiency syndromes require the treatment of co-infections, while in allergic diseases an improvement is observed after the implementation of a hypoallergenic diet. Experiences with respect to pharmacotherapy are poor, and cover few groups of children. Oral mesalazine preparations were applied, or, with the lack of improvement - oral budesonide [5]. According to Kaplan B. et al., lymphonodular hyperplasia confirmed by endoscopy and histopathological tests is the response of the intestinal lymphoid tissue to antigen stimulation, and in most cases does not require any specific conservative or surgical procedures [3]. The presented patient satisfied endoscopic and histopathological criteria of diagnosing lymphonodular hyperplasia. Similar to the cases reported in literature, she required only a symptomatic therapy.

## CONCLUSIONS

Massive bleeding from the gastrointestinal tract is an emergency condition requiring urgent diagnostics, which provides the possibility to apply proper therapeutic procedures. Lymphonodular hyperplasia as a pathology manifested by hemorrhage from the large bowel is a rare condition of unclear etiology. The diagnosis is based primarily on the endoscopic image. This is confirmed by the fact that endoscopy should be among the first examinations in the diagnostics of bleedings from the gastrointestinal tract.

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