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CHYLOTHORAX IN A NEWBORN: A CASE STUDY

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The article presents a clinical case of treatment of a newborn with chylothorax at the Republican Scientific and Practical Center for Minimally Invasive and Endovisual Surgery of Children.During the treatment period, in addition to pleural punctures, the hormone octretide was applied and a positive effect was obtained.

Key words: *chylothorax, octreotide, newborn*

ЯНГИ ТУГИЛГАН ЧАКАЛОКДА ХИЛОТОРАКС: АМАЛИЁТДАН.

Маколада Республика эндовизуаль ва кам инвазив болалар хирургия илмий амалий марказида даволанган чакалокда хилотораксни даволашда кулланилган даво методикаси хакида маълумот берилган. Кузатувда булган беморда плевраль пункциядан ташкари, октреотид гормонини кулланилган ва кутилган ижобий натижа олинган.
Калит сузлар: *хилоторакс, октреотид, чакалоклар.*

Chylothorax - skoplenie chylusa - pleural effusion containing lymph, rich in triglycerides and chylomicronami, the procedure and result of vassayvaniya jirov iz shechhnika po putyam lymphoottoka and grundnoy lymphatichesky flow. It is often caused by increased body fat and leads to cardiopulmonary insufficiency as well as metabolic, electrolyte and immune disorders [1]. At the same time, spontaneous chylothorax in newborns is a rather rare pathology and therefore a little-researched problem in neonatology.Chylous pleural effusion in newborns can develop as a result of congenital anomalies of the thoracic lymphatic duct (atresia, fistulas, congenital intraductal obstruction), due to birth trauma, compression by tumors, an inflammatory process, or occur spontaneously. Cases of primary persistent fetal chylothorax (primary pleural effusion, hereditary lymphangiectasia) have been described [2].The cause of spontaneous chylous chylothorax can also be porosity of the milk capillaries, as an expression of the morphological immaturity of the blood vessels in premature babies or as a result of inflammation and thrombosis of the vessels in the superior vena cava system in congenital infections [3].

Congenital chylothorax is more often associated with genetic diseases (Down syndrome, Shereshevsky-Turner syndrome, Noonan) [4].

Conservative and surgical methods are used to treat chylothorax in newborns.Conservative treatment includes repeated thoracentesis or installation of permanent pleural drainage to evacuate the chyle and prevent the development of respiratory diseases. Diet with mixtures

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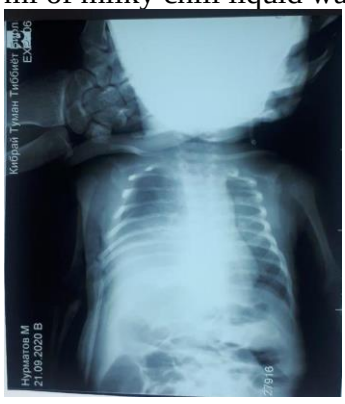
based on medium chain triglycerides; if there is no effect, discontinue enteral nutrition and switch to total parenteral nutrition; infusion therapy – to compensate for pathological fluid losses caused by pleural effusion; the use of somatostatin (octreotide) to improve chyle absorption [5]. If conservative therapy (preservation of exudate in a volume of 100 ml/per year of life per day) has no effect, the child undergoes surgery with the creation of a pleuroparitoneal shunt or ligation of the thoracic lymphatic duct [3,5] .

Despite modern approaches to the treatment of this pathology, chylothorax in newborns remains a serious pathology with a mortality of up to 50% [5, 6]. On this basis, this problem requires further study and any clinical case of chylothorax in newborns is of particular interest.

Purpose of work: To present a clinical case of diagnosis and treatment of a newborn with chylothorax.

Materials and methods. We present a case from clinical practice of chylothorax in a newborn boy with an intrauterine infection treated at the Republican Scientific and Practical Center for Endovisual and Minimally Invasive Surgery of Children.

Since 2019, from the 3rd pregnancy, up to 9 months of severe toxicosis, 2nd degree anemia, with a clinical diagnosis of hepatitis B. Cesarean delivery at 39 weeks. Birth weight 3300 g, height 50 cm, head circumference 34 cm and chest circumference 32 cm, Apgar score 7-8 points, with signs of morpho-functional maturity.On the 10th day after birth, the patient has symptoms of respiratory failure. The patient is urgently admitted to the neonatology department. During the therapy, the patient developed symptoms of respiratory failure and bronchospasm attacks with cyanosis.X-ray of the chest revealed fluid in the right pleural cavity and infiltrative changes in the right lung, hypoventilation of the right lung (Fig. 1). Ultrasound examination of the right pleural cavity revealed the presence of free fluid in the volume of V≈90-100 ml.According to the results of clinical and laboratory examination, a clinical diagnosis was made: Intrauterine infection. Intrauterine right-sided polysegmental lower lobe pneumonia. Hydrothorax on the right. The child was transferred to the neonatal surgery and intensive care unit for further treatment. Pleural cavity puncture was performed. In this, 100 ml of milky chili liquid was obtained (Fig. 2).



(figure 1)

(figure 2)

A fluid culture from the pleural cavity is sterile for microflora. Microscopic examination of chile, incl. in dynamics, determined: leukocytes in the field 50-60, lymphocytes 70-75%, protein 18.5-25.7 g/l, Rivolta test +++. Laboratory data confirmed the chylous nature of the effusion. Blood analysis: hemoglobin - 152 g/l, leukocytes - 12.9*109/l, erythrocytes - 4.8*1012/l, hematocrit-45%, platelets-292*109/l, p/i-1%.s/ya-57%, limosity-33%, monocity-8%, SOE-4mm/ch. And biochemical blood analysis: normal protein-67g/l, urea-3.0 mmol/l,

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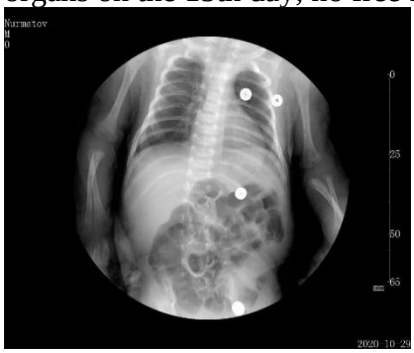
creatinine-55mmol/l, AlT-15Ed/l, AsT-21Ed/l, normal bilirubin-22mmol/l. Coagulogram: Prothrombin time - 14.6 sec., prothrombin index - 95%, AChTV - 25.2 sec., fibrinogen - 195mg/dl, Thrombotest - IVst., MNO - 1.23. Taking into account the medical history and study results, the patient was prescribed intensive therapy in accordance with the accepted internal protocol for the treatment of newborns with chylothorax. After the chylous nature of the effusion was established, it was immediately decided to start treatment with a somatostatin analogue, the drug octreotide, at an initial dose of 3 mcg/kg/h.Enteral nutrition was discontinued and complete nutrition was prescribed (10% Aminoven infant 2.5 g/kg/day, 10–40% glucose solutions 10–14 g/kg/day, K+ 1.0–1.5 mmol/kg/ day, Na+ 2 mmol/day). kg/day, Ca++ 150 mg/kg/day, Mg++ 35 mg/kg/day) parenteral nutrition, oxygen therapy, syndromic and antibacterial therapy were continued. Octreotide was administered at a dose of 5 mcg/kg/h for 10 days and then gradually withdrawn.Every day the patient underwent ultrasound examination of the pleural cavities. Because free fluid accumulated in the pleural cavity on days 2 and 4, the pleural cavity was punctured twice and 50 ml of chyle fluid was removed. The 6-day observation showed positive dynamics; subsequent follow-up ultrasound examinations showed no fluid in the pleural cavities.Enteral nutrition was started on the 12th day: constant titration of saline solutions via a gastric tube. On the control x-ray of the chest organs on the 15th day, no free fluid could be detected in the pleural cavities (Fig. 3).



(3 figure)

Discussion. The strategy for chylothorax is the same regardless of the etiology of the chylothorax. The first priority is to aspirate pleural fluid for initial drainage and diagnosis. A chest tube is indicated if the effusion causes difficulty breathing or the accumulation of the effusion recurs, and may be necessary for a period of time as the chyle leak takes time to heal.However, long-term chest tube insertion has been reported to be associated with hypoproteinemia, lymphopenia, infection and associated lung damage, resulting in prolonged hospital stay.Nutritional support in the treatment of chylothorax aims to ensure adequate caloric intake with minimal chyle flow in the thoracic duct to await spontaneous healing of the leak site. This is usually achieved by feeding a high triglyceride formula, which bypasses the intestinal lymphatic system and is absorbed directly into the portal vein. It is noteworthy that simply consuming water by mouth can lead to lymph flow into the chest, and a mixture containing triglycerides with a fat content of up to 80% can also lead to a new accumulation of pleural effusions.Therefore, some authors suggest complete parenteral rest. The practical approach is to provide parenteral nutrition until pleural effusion is minimal and cardiopulmonary status is stable. A trial feeding with triglyceride-enriched infant formula can then be performed, with renewed accumulation of pleural effusions being closely monitored using chest tubes or ultrasound.The success of a procedure involving thoracentesis or drainage

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of pleural fluid depends on early diagnosis, the volume and recurrence of the chylous effusion, the degree of compression of the lung and, if the effusion is small and there is no mediastinal displacement, expectant treatment with follow-up ultrasound from One examination is sufficient.

Conclusion:

The most likely cause of chylothorax in this case may have been intrauterine pneumonia. Treatment of patients with chylothorax is a difficult task because early diagnosis is required to improve the patient's condition by timely discontinuation of enteral nutrition and switching to total parenteral nutrition. The use of the drug somatostatin (octreotide) in a child with chylothorax showed a lasting positive effect in our case. In the following days, repeated ultrasound examinations of the pleural cavities no longer detect free fluid. After starting enteral feeding with the mixture, we started breastfeeding. The child was discharged in satisfactory condition.

References:

1. Pediatric surgery: National guidelines. Yu.F. Isakov, A.F. Dronov, ed. M.: GEOTAR-Media, 2009: 304 p.
2. Pulmonology: National Guide. A.G. Chuchalin, ed. M.: GEOTAR-Media, 2013: 960 p.
3. Iekov S.A., Gorelik Yu.V., Gorelik K.D. Chylothorax. Clinical cases. Neonatology. 2016. No. 3. pp. 57-63
4. Attar M.A., Donn S.M., Congenital chylothorax // Neonatology.-2017.-No.3.-P.30-39.
5. Balandina N.A., Belyaeva I.D., Stepanenko S.M., Zhirkova Yu.V., Tsvetkov I.O. Chylothorax in newborns; http://rusanesth.com/stati/intensivnaya-terapiya/xilotoraks-u-novorozhdennyix.html.
6. Downie L., Sasi A., Malhotra A. Congenital chylothorax: associations and neonatal outcomes // Paediatr. Child Health. 2014. Vol. 50. No. 3. R. 234–238.