AJPMHS GLOBAL RESEARCH NETWORK

AMERICAN Journal of Pediatric Medicine and Health Sciences
Volume 01, Issue 09, 2023 ISSN (E): 2993-2149

Treatment Of Prolonged Hyperbilirubinemia Against The Background Of Existing Non-Hospital Pneumonia And Heart Disease In An Infant

Boboeva N.T.

https://orcid.org/0000-0003-3569-6688
Samarkand State Medical University

Resume: The article presents the result of treatment of a child with prolonged neonatal hyperbilirubinemia on the background of neonatal pneumonia and atrial septal defect of the heart.

In this clinical case the child was hospitalized in the Samarkand branch of the Republican Scientific Center of Emergency Medical Care due to hectic temperature and signs of acute inflammatory process. During the examination the child in the background of prolonged hyperbilirubinemia was diagnosed pneumonia and a defect of the atrial septal defect of the heart . During the treatment of this patient the treatment algorithm was clearly chosen due to the existing pathology of the child. The treatment was based on pathophysiological aspects and coordinated on the anatomical and physiological characteristics of this child.

Key words: prolonged hyperbilirubinemia, bilirubin, pneumonia, atrial septal defect of the heart.

Relevance.

Jaundice is the commonest physiologycal finding during first week of life. 60 % of term and 80 % of preterm neonates develop clinical jaundice[1] and almost all newborns will develop jaundice during first week of life[2] . Jaundice is a common and potentially harmful condition in neonates. But some times in newborn jaundice may continued. Prolonged jaundice is defined universally as jaundice persisting beyond day 14 of life in term neonates, and beyond day 21 in preterm neonates. Prolonged jaundice is reported to be found in 15 to 40% of well, breastfed infants at 2 weeks, and 9% at 4 weeks of age[3].

The purpose of the study. The aim of this study is to study the treatment of prolonged hyperbilirubinemia against the background of pneumonia and congenital heart disease and to develop ways to improve the results in these clinical cases.

Material and methods.

In this clinical case, the infant was examined in parallel with the clinical picture by laboratory and instrumental research methods. A chest X-ray of the infant revealed cardiomegaly and increased pulmonary pattern. Echocardiographic diagnosis of atrial septal defect was performed for the necessary information on treatment tactics in this case. During the echocardiographic examination, the child was diagnosed with a defect of the atrial septum of the heart. A biochemical blood test revealed hyperbilirubinemia with enzyme changes.

Results and discussions.

The condition of the infant with prolonged hyperbilirubinemia on the background of out-of-hospital pneumonia and congenital heart disease was severe. The baby had a weak cry, a sharp decrease in reflexes, muscle hypotension, adynamia. When visually assessed on the Kramer scale, the child had a third degree of yellowness of the skin. The presence of respiratory insufficiency manifested by inflating the wings of the nose, the participation of auxiliary muscles in the act of breathing alerted us to the toxic effect of bilirubin. With percussion, there is a noticeable dulling of the pulmonary sound. Auscultatively listened to scattered wet wheezes at the height of inspiration. During a physical examination of the cardiovascular system, a right ventricular thrust was felt. During auscultation, gentle systolic noise and splitting of the second tone were listened to at the Botkin point. Echocardiographic data for the defect of the atrial septal defect of the heart included right-left shunt overload of the right atrium, sharp inhomogeneity of the intervertebral septum, volumetric overload of the right ventricle and atrium and enlargement of the pulmonary artery.

In many cases the diagnosis of the cause of neonatal hemolytic jaundice and anemia will be obvious from the clinical presentation, family history, CBC, blood film, and simple first-line laboratory testing[6,7].

In the first steps in evaluating a prolonged jaundiced , to determine whether the jaundice is caused by hemolysis, involve examining the complete blood count (CBC) results and the blood smear. A careful examination of the blood smear can be a productive early step in recognizing hemolysis and identifying its cause. Haemoglobin concentration reduced and falls rapidly. Reticulocytes increased. Erythroblastosis uncommon. Spherocytes easily seen on blood films in very large numbers.

Neutrophil left shift is an expression used to indicate an abnormal increase in immature neutrophils in the circulation. During infection the number of promyelocytes and myelocytes in the bone marrow typically increases because of the added cell divisions.

In the biochemical study of blood increase in level of total serum bilirubin level by >0.5 mg/dl/hour-or more than 5mg/dl/ 24 hours. Total serum bilirubin more than >258,0mkmol/l. Undirect serum bilirubin concentration more than 158,0mkmol/l. Clinical jaundice persisting for more than one month .

The existing severe respiratory insufficiency on the background of an atrial septal defect required a clinically skilful approach to this infant. Hypoxemia leading to acidosis is known to provoke bilirubin toxicity. In addition, hypoxia and acidosis against the background of prolonged hyperbilirubinemia contributes to the occurrence of metabolic changes in the body as a whole[4,5]. In this connection, oxygen therapy was applied to this infant. Aerosols with alkalis were regularly used to improve lung aeration.

Pneumonia occurring against the background of hyperbilirubinemia required careful choice of an antibiotic in this case. For treatment, we selected an antibiotic with minimal binding of albumin in the blood serum.

Hofitol has an important role in prolonged hyperbilirubinemia, having a hepatoprotective effect. Thereby normalizes the level of direct bilirubin in the blood serum.

The negative correlation between the total protein and the level of total bilirubin in the serum of crocs led to the pathogenic use of Kartan in the studied groups of newborns. Kartan in these cases, normalizing protein metabolism contributed to the economical consumption of glycogen and an increase in its reserves in the liver. Thereby exerting a neurotrophic effect limits the affected area due to hypoglycemia and hyperbilirubinemia.

Conclusion.

In this study, we demonstrated the presence of treatment of prolonged hyperbilirubinemia against the background of existing non-hospital pneumonia and heart disease in an infant during the first after gospitalisation.Based on the results of this study, we advise to use only Kartan and Hofitol.

The use of the drugs Kartan and Hofitol contributes to the pathogenetically justified correction of metabolic changes in prolonged jaundice.

LITERATURE:

1. Ives NK. Management of neonatal jaundice. Paediatr Child Health. Elsevier Ltd; 2011 Jun ;21(6):270–6. Available from: http://linkinghub. elsevier.com/retrieve/ pii/S1751722211000461

2. Rodie ME, Harry C, Taylor R, Barclay a R et al. Rationalized assessment of prolonged jaundice is safe and cost-effective. Scott Med J . 2012 Aug;57(3):144–7. Available from: http:// www.ncbi.nlm.nih.gov/ pubmed/22859805
3. Crofts D, Michel V-M, Rigby A, Tanner M et al. Assessment of stool colour in community management of prolonged jaundice in infancy. Acta Paediatr. 2007 Jan 2;88(9):969–74. Available from: http://doi.wiley. com/10.1111/j.1651-2227. 1999.tb00192.
4. Boboeva N.T. Diagnostical value of procalcitonin in newborns with hyperbilirubinemia. The neonate 2018 2nd International symposium for Asia Shanghai November 23-25, 2018 year.Journal "Neonatology" Vol 115 №2.
5. Бобоева Н.Т.Оценка метаболических изменений при пролонгированной неонатальной гипербилирубинемии с С-реактивным белком и прокальцитонином. Журнал: Доктор ахборотномаси 2019, №2, С. 32-35.
6. Бобоева Н.Т. Дифференциально-диагностический подход этиологии и клинической симптоматики пролонгированной неоанатальной гипербилирубинемии. Журнал: Доктор ахборотномаси 2019, №2, С. 133-143.
7. Boboeva N.T. Summary markers of inflamation and metabolic changes in prolonged neonatal hyperbilirubinemia. European Science Review 3 (4), 2020, С.16-21.