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Symptomatic Cholelithiasis in Paediatric Client, Seven Years Old Female Child as Case Report

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Abstract

Gall stones, stones in the gall balder or cholidocholilitiasis, and hepatobiliary tract ducts are rare to experience during surgical or medical experience but can still occur. Even symptomatic cholelithiasis is rarely encountered and treated surgically. The aetiology, risk factors, pathology, presentations, recommendation of workup, and treatment protocols vary among adults who commonly develop these problems. Therefore, there are still standardised management protocols for paediatric cholelithiasis.

We evaluated one case of an old female child who presented to our hospital with symptomatic cholelithiasis and reviewed the patient's presentation, management, outcome, and available data.

Results: *Her symptoms improved after surgery and cholecystectomy; in contrast to adults, for whom guidelines on cholelithiasis treatment exist, there is no consistent treatment of paediatric patients with cholelithiasis throughout national and international departments, most probably due to the lack of evidence-based studies.*

Conclusions: *The management of paediatric cholelithiasis differs between hospitals and paediatricians and paediatric surgeons. Evidence-based large-scale population studies, as well as common guidelines, may represent very important tools for treating this increasing number of diagnoses.*

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Introduction

Cholelithiasis in children refers to cholelithiasis or choledocholithiasis in newborns, infants and adolescents, including a series of symptoms and complications related to stones. The incidence rate of cholelithiasis in children is far lower than that in adults [1].

GS in adults are asymptomatic in >80% of patients; however, only 17 to 50% of children with GS are asymptomatic [2].

Although it is still uncommon in this age group, the incidence of cholelithiasis in children and adolescents is increasing, with prevalence rates ranging from 0.13% to 1.9%. Based primarily on small-scale population research, clinical practice demonstrates diversity in the diagnosis and therapeutic management of this illness. German guidelines for managing adult cases of cholelithiasis are derived from the German Societies for Surgery of the Alimentary Tract and for Digestive and Metabolic Diseases. However, other nations, such those in Europe, Japan, and the USA, have various policies in place for adult care [3].

Case Report

A 7-years old female child presented with abdominal pain for four months. The pain was intermittent with choliky type more of the right upper quadrant and central part of the abdomen. She was repeatedly treated for intestinal parasitosis but did not improve. During my evaluation, she complained of similar symptoms and the family also complained as the symptoms became more frequent. Physical examination revealed no jaundice, but mild tenderness in the right upper abdominal quadrant. So, she is worked up with complete blood count, liver enzyme test, coagulation profile test and abdominal ultrasound imaging. (see table 1 and table 2).

Discussion

20-40% of children with cholelithiasis have some kind of hemolytic disease: hereditary spherocytosis, sickle cell anemia and thalassemia are the most common and are considered to be the greatest risk factor for the development of symptomatic cholelithiasis in the pediatric population [1,4,5].

When cholecystitis first manifested, 33/34 paediatric patients (97%) and 35/53 visceral surgical cases (66%) were treated conservatively and with observation—either with or without a combination of analgesics, proton pump inhibitors, and antibiotics. Seven paediatric patients (21%) experienced litholysis as a result of UDCA therapy; nevertheless, none of the kids in the cohort felt it was helpful [3].

Preoperative complications were more common in the subgroup of paediatric surgery cases: biliary pancreatitis was reported in 8 paediatric patients (24%), compared to 3 cases (6%), in the visceral surgery category ($p = 0.021$). Choledocholithiasis was confirmed in six cases (18%) in the paediatric surgery cohort and five patients (9%, $p = 0.318$) in the visceral surgery category [5].

While an elevated BMI is estimated as one of the important risk factors in the development of adult cholelithiasis, other diagnoses such as metabolic disorders, parenteral nutrition, cystic fibrosis, hemolytic diseases and malignancies are strongly correlated with pediatric gallstones [1,4].

Della Corte et al. (2008) asserted that UDCA was ineffective in treating cholelithiasis, despite reports of a notable improvement in symptoms. Baran et al., who published a study of 74 children, most of whom responded to UDCA treatment within the first six months, also corroborate this reduction in symptoms. In order to assess the true benefit of UDCA in paediatric patients, larger population studies are necessary.

354 paediatric patients' data were examined. Idiopathic pseudolithiasis (56.2%) was the most common aetiology, followed by ceftriaxone pseudolithiasis (26.8%). The biggest rate of problems was linked to pigment stones. When treated with medication, non-hemolytic stones had a high rate of clearance and a lower rate of complications. The aetiology of paediatric cholelithiasis was classified, and the result of medical/surgical treatment was [6].

Hemolytic and symptomatic stones warrant an early cholecystectomy, whereas asymptomatic idiopathic stones, ceftriaxone stones, and TPN-induced stones are candidates for medical therapy under close observation. Results suggest that serum sphingolipids may

be potential biomarkers in pediatric patients with cholelithiasis [7].

Gallstone disease (GD) is increasingly common among children, possibly caused by an unhealthy food environment and the associated unhealthy lifestyle [8].

In North America and Northern Europe, the most frequent cause of inherited chronic haemolysis is hereditary spherocytosis (HS), with an incidence of up to one in every 2000 births. Intrinsic erythrocyte membrane protein abnormalities cause spherically shaped erythrocytes with decreased deformability and a shorter lifespan, a condition known as HS. Prolonged haemolysis results in anaemia, jaundice, and the development of bilirubin gallstones, which frequently necessitate splenectomy in children [6].

Gallstones are the most common complication of HS, affecting approximately 40% of nonsplenectomized patients, and are the primary reason for performing a cholecystectomy in patients with HS. For patients with symptomatic gallstones, the guidelines from the British Committee for Standards in Haematology (BCSH), published in 2004 and updated in 2011, recommended that "the gall bladder should be removed" with or without splenectomy.

Historically, cholecystectomy was often performed during splenectomy for asymptomatic gallstones, but recent guidelines question its necessity. The 2017 European Hematology Association offers no specific guidance for these cases. Most asymptomatic gallstones in splenectomized hereditary spherocytosis (HS) patients persist, potentially causing complications, while smaller stones may resolve. Prophylactic cholecystectomy is not recommended unless gallstones are symptomatic [9].

Sickle cell disease (SCD) is the most frequent hemoglobinopathy and is primarily encountered in Africans. According to the World Health Organization (WHO), more than 330,000 children are born with hemoglobinopathy, with 83% affected by SCD. In Sub-Saharan Africa (SSA), namely in Senegal, the increased frequency of SCD is partially due to consanguineous marriages. Its lethality is around 2.6%. n sickle cell (SC) patients, the prevalence of biliary stones increases with age and the severity of hemolysis. It is found in 12% of children aged five to seven, and 23% in those aged eleven to thirteen. Its frequency seems higher in the USA and the West Indies (20%) than in Sub-Saharan Africa [6].

Sickle cell disease is an autosomal recessive disease in its clinical expression and co-dominant in its biological expression. It is secondary to the beta hemoglobin chain gene mutation, characterized by the substitution of thymine for adenine at the sixth codon, leading to the substitution of valine for glutamic acid in position 6 of the beta chain of hemoglobin, characteristic of the hemoglobin S. The Senegal and Arab-India haplotypes are generally characterized by a more remarkable synthesis of hemoglobin F (fetal) and better tolerance of the disease [9].

The kind of hemoglobinopathy seems to play a crucial role in the occurrence of gallstones. So, patients with type SC drepanocytosis have less complication, as hemolysis is less frequent in this subgroup.

The frequency of gallstones in children is estimated between 0.13 and 0.22%. This rate is higher in children with sickle cell disease. Parez in Paris noted a rate of 14%. Almudaibigh reported a 31.4% prevalence of cholelithiasis in Saudi Arabia in children with sickle cell disease. In Senegal, the prevalence rate is 9.4% in children with homozygous sickle cell disease.

The mean age of children with cholelithiasis is estimated at ten years. The prevalence and incidence increase with age. Data from the literature indicate that gallstones in children slightly more often occur in females. This difference may be due to hormonal factors [7,9].

Table 1: CBC Profile of the Patient

CBC	RESULT	UNIT	INTERPRTATION
WBC	7.71.000	K-UL	
Neutrophil count	62.4%	%	
L Y M P H O C Y T E COUNT	24.6%	%	
Eosinophil	4.6	0.00	
PLATLET	266	MM3	
HCT	46%	%	
MCV	86	FL	
MCH	86	pg	
MCHC	29.4	g-dl	

Table 2: The Liver Enzime Test Report of the Case

LIVER EZIME	RESULT	NORMAL RANGE
ALT-SGPT	22	IU-L
AST-SGOT	10	IU-L
ALP	297	IU-L
DIRECT BILIRUBIN	0.5	Mg/dl
TOTAL BILIRUBIN	0.72	Mg/dl
RBS	92	MG/DL

Ultrasound of Abdomen Report by Radiologist

The liver, kidney and spleen are normal. There is 6 to 7 cm sized hyper-echoic focci in the gall balder lumen with acoustic shadow and distended gall bladder with normal wall thickness. The common balder duct and intra-hepatic ducts are not distended.

Figure (Picture of the stone).

Figure 1: The picture shows the post operative finding of solitary pigment stone(black) after the gall balder was opened.

Ethical Issue: The patients family give informed consent for sharing their child medical information.

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Conflict of Interest: No source of conflict.

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References

1. Agawu A, Kanagawa C, Wong J, Shults J, Feudtner C, et al. (2023) Pediatric Cholelithiasis in the United States: National Hospitalization Trends, 2006 to 2019. Journal of Pediatric Gastroenterology and Nutrition 77: 741–777.
2. Krawczyk M, Kułaga Z, Niewiadomska O, Jankowska I, Lebensztejn D, et al. (2023) Are children with gallstone disease more overweight? Results of a matched case-control analysis. Clinics and Research in Hepatology and Gastroenterology 47: 102204.
3. Shabanzadeh DM (2023) The symptomatic outcomes of cholecystectomy for gallstones. Journal of Clinical Medicine 12: 1897.
4. Todesco C, Molinaro F, Nascimben F, Gentilucci G, Messina M, et al. (2023) Gallbladder Stones in Pediatric Age: An Emerging Problem: The Risk of Difficult Cholecystectomy and the Importance of a Preoperative Evaluation. Children 10: 1544.
5. Treider M, Ohnesorge S, Bjørnland K (2023) Post-cholecystectomy syndrome in pediatric patients: Occurrence and spectrum of symptoms. Journal of Pediatric Surgery 58: 564-567.
6. Liu Y, Jin S, Li Y, Xu R, Pang W, et al. (2023) Treatment of asymptomatic gallstones in children with hereditary spherocytosis requiring splenectomy. Journal of Pediatric Surgery 58: 756-761.
7. Orłowska A, Socha P, Szychta M, Ismail H, Jankowska (2023) Management of gallstone disease in children. Pediatria Polska-Polish Journal of Paediatrics 98: 229-235.
8. Agrawal V, Tiwari A, Sharma D, Agrawal R (2021) Etiology-Based Decision-Making Protocol for Pediatric Cholelithiasis. Indian Pediatrics 58: 729-732.
9. Diez S, Müller H, Weiss C, Schellerer V, Besendörfer M (2021) Cholelithiasis and cholecystitis in children and adolescents: Does this increasing diagnosis require a common guideline for pediatricians and pediatric surgeons? BMC Gastroenterology 21: 186.