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Acute Cholecystitis in Children: A Report of 58 Cases

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Abstract

Background: Acute Cholecystitis is uncommon in children. This study reports our experience of acute cholecystitis in children.

Patients and Methods: It is a retrospective study of all the children managed in the National Hospital of Donka (Conakry), within a 6-year period (January 1998 to December 2003). The data analyzed included age, clinical features, laboratory features and outcome of management.

Results: There were 58 patients with acute cholecystitis, (M:F=2:1). The most common causes of acute cholecystitis were Salmonella typhi organisms in 36 patients followed by stones in 8. Thirty four patients were treated non-operatively but cholecystectomy was carried out in 24 patients. The mortality rate was 10.34%.

Conclusion: Salmonella and stones are the most common causes of childhood acute cholecystitis in Guinea Conakry. Acute cholecystitis is associated with significant mortality in children.

Key Words: Acalculus cholecystitis, Salmonella typhi, calculus cholecystitis.

Introduction

Cholecystitis is rare in children[1-4]. Although childhood cholecystitis is frequently caused by typhoid organisms, the disease could also result from chronic haemolyses caused by sickle cell disease and thalassaemia. There is paucity of reports on childhood acute cholecystitis from Africa[1-3]. In this report we wanted to evaluate the pattern and outcome of treatment of cholecystitis in children.

Patients and Methods

This was a retrospective study of all children managed at the National Hospital of Donka (Conakry), within a 6-year period (January 1998 to December 2003). The data analyzed included age, clinical features, laboratory features and outcome of management.

Results

There were 58 patients with cholecystitis in this study, 35 (60.3%) were boys and 23 (39.7%) were girls (M:F=2:1). Their ages ranged from 16 months to 15 years (mean age was 8.29 years; Table1). Forty six (79.3%) patients presented with pain in the right hypochondrium, and positive Murphy's sign. Eight (13.8%) patients had generalized abdominal pain, while 4 (6.9%) presented with peritonitis. Vomiting occurred in 34 (58.6%) patients, while 15 (25.9%) had jaundice. All the patients had pyrexia, with body temperatures greater than 38.5oC.

The serum antibody titre levels suggested infection by Salmonella organisms in 36 (62.1%) patients. Abdominal ultrasonography was carried out in 43 (74.1%) patients, and confirmed cholecystitis in all cases but showed gall stones in 8 (13.8%) patients. Abdominal ultrasonography showed cholecystitis coexisting with sludge in 11 (19.0%), and in 14 (21.4%) patients cholecystitis was associated with other pathologies (hepatitis, pancreatitis, hepatome-galy, intrahepatic cholestasis). The ultrasonographic features of cholecystits included a positive probe-induced Murphy's sign, pericholecystic fluid collection and thickening of gall bladder wall (greater than 8mm). There were 7 cases of mucocele, 10 cases of

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cholecystitis with sludge in the gallbladder, 3 cases of empyema of the gallbladder and 4 gangrenous gallbladders.

All the patients had initial non-operative medical treatment comprising nil by mouth, intravenous fluid and electrolytes replacement, antispasmodic drugs, non-steroidal anti-inflammatory analgesics and intravenous broad spectrum antibiotics varying lengths of time. Thirty four (58.6%) patients recovered on this regiment, but cholecystectomy was necessitated in 24 (41.4%) patients because of failed non-operative management. Three patients developed postoperative complications; in one patient in whom the common bile duct was incidentally ligated, the other 2 patients developed residual intraperitoneal abscess. The duration of hospitalization was between 1 to 6 weeks with an average of 2.24 ± 1.10 weeks. The postoperative mortality rate was 10.34 %(6 deaths out of 24 operated patients).

Table 1: Age and Sex Distribution of Patients with Cholecystitis

Age Group	Sex		Total	Percentage (%)
	Male	Female		
1-4 years	5	4	9	15.52
5-9 years	18	10	28	48.27
10 - 15 years	12	9	21	36.21
Total	35	23	58	100

Discussion

Childhood acute cholecystitis is not common in our practice, although there are several reports on acute cholecystitis in children[1,2,4]. The incidence of cholecystitis in this report agrees with the report by Do Rego[4], but lower than those reported by Fall[3] and Valmary[5]. Acute acalculus cholecystitis represents less than 5% of all types of acute cholecystitis in the country where biliary stones are common[6,7]. Although all ages are susceptible, the age bracket of 5-9 years (mean: 8. 29 years) is the most vulnerable.

Serum titre levels suggested infection with salmonella organisms in more than half (62.07%) of our patients. Salmonella organisms are commonly found in the gall bladder where they cause inflammation. Several mechanisms may be responsible for cholecystitis secondary to salmonella infection. These include mechanical factors like stasis and the direct action on the gall bladder by the organism. Typhic cholecystitis is considered a rare affectation in Black Africans. Ayite and colleagues1 in Lome found 5 cases of acalculus acute cholecystitis of typhoid origin in children over a 7-years period. The rarity of acalculus acute cholecystitis in the child explains diagnostic difficulties and delay in the management of these patients. More than half (70.69%) of the patients were referred by paediatricians after a few days of hospitalization for abdominal pains and fever. It is true that the interpretation of the clinical signs is not always easy in the child, but the localization of pain and tenderness with or without jaundice in the right hypochondrium should alert the attention of the clinician to gall bladder disease2.

Treatment of acute cholecystitis is both medical and surgical; the first line of treatment in many instances is by use of broad spectrum antibiotics1, 4. Thirty four of our patients profited from medical and non-operative treatment only. Reccurrence and complications of the diseases are the major disadvantages of the exclusive medical treatment.

In our experience cholecysectomy can safely be performed with good outcome in patients with complications of cholecystitis like mucocoele, cholecystitis with sludge, empyema and gangrenous

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La cholécystite aiguë chez les enfants: un rapport de 58 cas

Résumé

Arrière-plan: La cholécystite aiguë est rare chez les enfants. Cette étude rapporte notre expérience de la cholécystite aiguë chez les enfants. ***Malades et méthodes:*** C'est une étude rétrospective de tous les enfants soignés à l'Hôpital National de Donka (Conakry), pendant une période de 6 ans (janvier 1998 à décembre 2003). Les données analysées comprennent l'âge, les traits cliniques, les caractéristiques du laboratoire et le résultat de la gestion. ***Résultats:*** Il y avait 58 malades atteints de cholécystite aiguë (M:F=2:1). Les causes les plus communes de cholécystite aiguë étaient des organismes de la Salmonelle typhique chez 36 malades et les calculs chez 8 malades. Trente-quatre malades ont été traités sans intervention chirurgicale mais la cholécystostomie a été pratiquée sur 24 malades. Le taux de la mortalité était de 10,34%. ***Conclusion:*** La salmonelle et les calculs sont les causes les plus fréquentes de la cholécystite infantile aiguë en Guinée Conakry. La cholécystite aiguë est liée à une mortalité considérable chez les enfants. ***Mots-clés:*** Cholécystite, calculs, typhus de la Salmonelle, cholécystite du calcul.

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