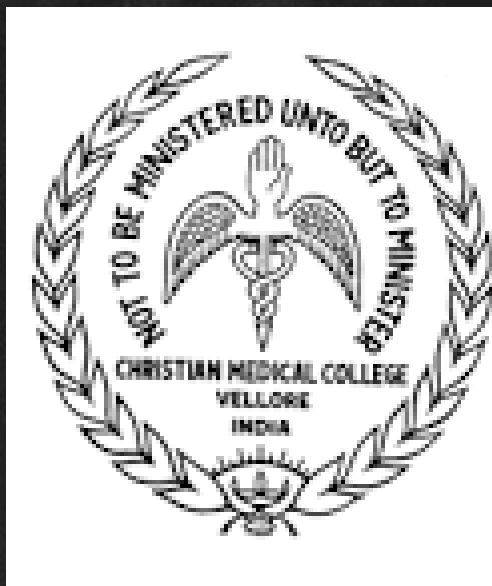




Clinical presentations and Outcomes of Acute Hepatitis A infection in children: Is it different across age groups?



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CONFLICT OF INTEREST: None to disclose

FUNDING: None

INTRODUCTION

- Hepatitis A infection has widely varied presentations ranging from a self-limiting liver dysfunction to acute liver failure (ALF) requiring liver transplantation (LT).
- Hepatic presentations and outcomes were not well-studied, especially in the post-vaccination era.

OBJECTIVE

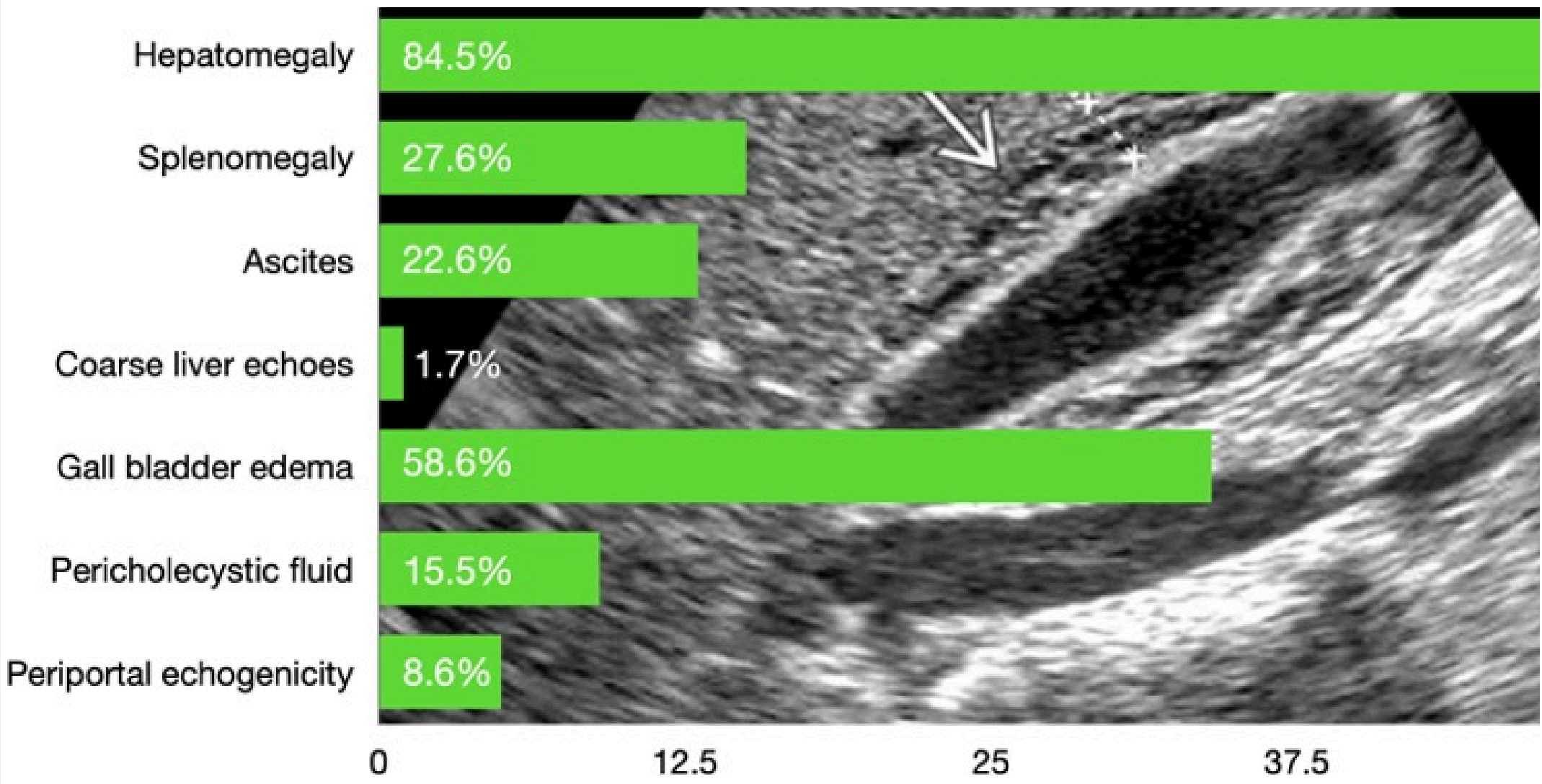
To examine phenotypes and outcomes of confirmed pediatric Hepatitis A cases.

METHODOLOGY

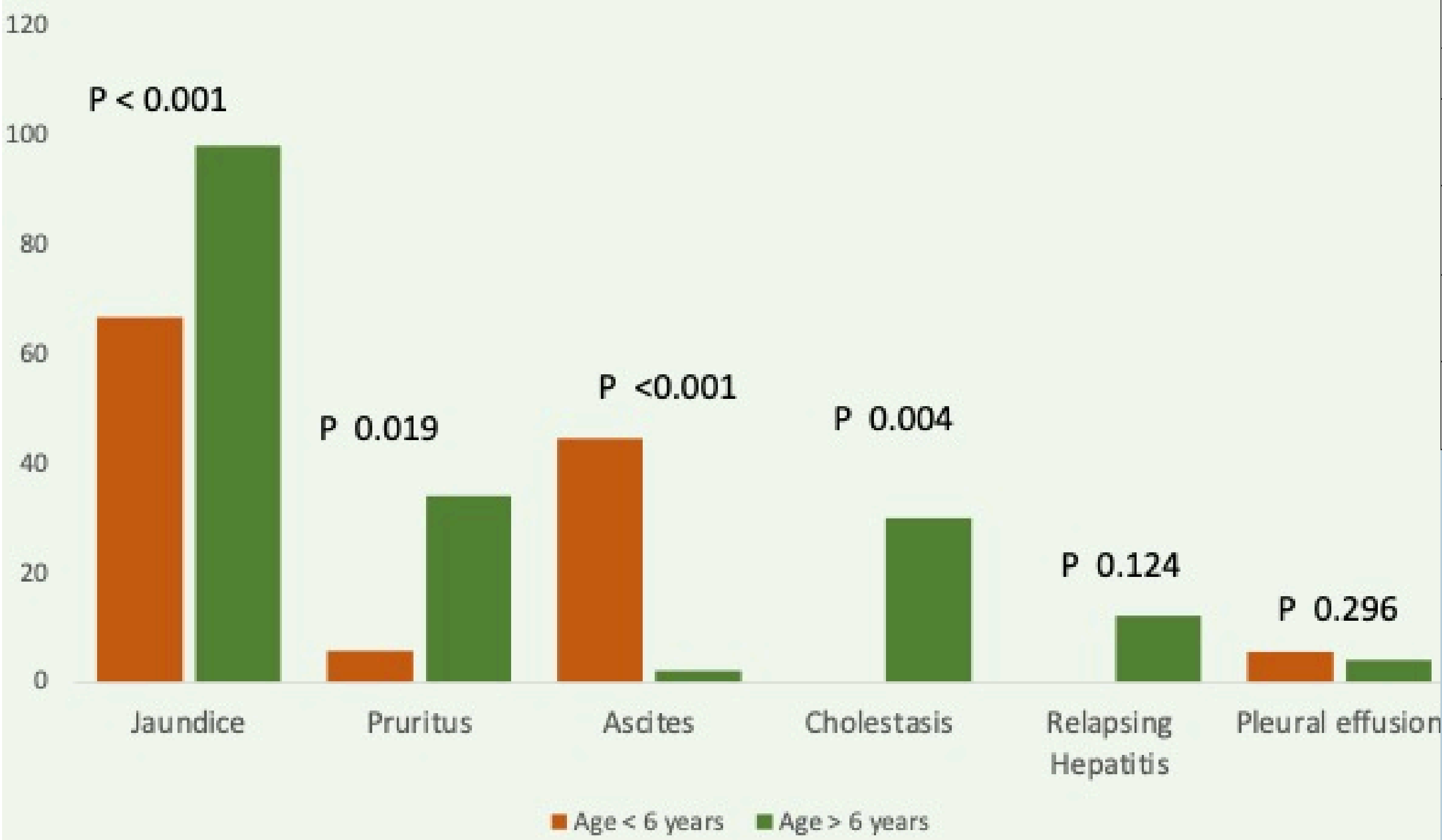
Children (< 16 years) with the presence of symptoms and/ or deranged liver function tests (LFTs) and positive immunoglobulin M against Hepatitis A, between Jan 2020 and Dec 2024, were included in the study.

RESULTS/FINDINGS

- 68 children [116.5 (26-195) months, boys 49 (72.1%)] were included. 67(98.5%) had symptoms.
- Anorexia (94.1%), fever (80.9%), vomiting (67.6%), and abdominal pain (39.7%) are the most common prodromal symptoms.
- Icterus (89.7%) and hepatomegaly (89.7%) are predominant presentations, followed by ascites (22.4%) and splenomegaly (13.2%).
- Hepatic presentations included cholestasis (25%), relapsing hepatitis (8.8%), ALF (4.4%) (1 died, 2 underwent LT), hepatic hydrothorax (4.5%), concurrent viral illness (1.5%), and acute pancreatitis (1.5%).
- 60 (89.6%) children were followed up [duration 2.0 (0.3-11) months].



Comparison of Hepatitis A outcome between age < 6 years and age > 6 years



Comparison of clinical, biochemical and imaging characteristics of children with Hepatitis A with cholestatic phase and Hepatitis A without cholestatic phase

| | Hepatitis A with cholestasis (n= 17) | Hepatitis A without cholestasis (n=51) |
|---|--------------------------------------|--|
| Gender (male: female) | 14: 3 | 35: 16 |
| Age at presentation in months | 156.0 (105.0- 176.5) | 103.0 (66.0-146.0) |
| Clinical presentations | | |
| Fever (%) | 17 (100) | 38 (74.5) |
| Vomiting (%) | 13 (76.4) | 33 (64.7) |
| Anorexia (%) | 16 (94.1) | 48 (94.1) |
| Abdominal pain (%) | 3 (17.6) | 24 (47.1) |
| Jaundice (%) | 17 (100) | 44 (86.3) |
| Pruritus (%) | 16 (94.1) | 2 (4.1) |
| CAM ingestion (%) | 4 (23.5) | 6 (11.8) |
| Weight z-scores | -0.9 (-1.2- 0.2) | -0.5 (-1.3- 0.4) |
| Height z-scores | 0.1 (-0.4- 0.9) | -0.3 (-1.0- 0.7) |
| BMI z-scores | -1.3 (-2.1- -0.3) | -0.4 (-1.4 - 0.3) |
| Palpable liver (%) | 16 (94.1) | 45 (88.2) |
| Liver below right costal margin in cm | 3 (2-3) | 3 (2-4) |
| Palpable spleen (%) | 1 (6.3) | 8 (15.7) |
| Presence of ascites (%) | 0 (0) | 8 (17.6) |
| Biochemical parameters | | |
| Hemoglobin (g/dl) | 12.6 (11.3- 13.0) | 12.1 (11.2- 12.6) |
| Total bilirubin (mg/ dl) | 6.4 (3.5 - 13.5) | 4.9 (2.6- 6.2) |
| Direct bilirubin (mg/ dl) | 4.6 (2.4- 9.3) | 4.1 (1.6- 5.9) |
| AST (U/L) | 315 (127- 1002) | 539 (231- 1480) |
| ALT (U/L) | 425 (129- 1282) | 689 (448- 1356) |
| Serum total protein (g/dl) | 7.4 (6.8- 7.6) | 6.9 (6.3- 7.3) |
| Serum albumin (g/dl) | 3.9 (3.8- 4.2) | 3.8 (3.2- 4.1) |
| ALP (U/L) | 350 (280- 535) | 425 (303- 550) |
| INR | 1.1 (1.1- 1.5) | 1.1 (1.0- 1.3) |
| Peak total bilirubin (mg/ dl) | 11.9 (7.2- 27.6) | 6.0 (3.5- 8.3) |
| Peak AST (U/ L) | 571 (217- 3351) | 852 (254- 1679) |
| Peak AST (U/L) | 630 (189- 1973) | 861 (516- 1480) |
| Peak INR | 1.2 (1.1- 1.6) | 1.1 (1.1- 1.3) |
| Associations and outcome | | |
| Underlying chronic liver disease (%) | 0 (0) | 1 (2.0) |
| Concurrent viral infections (%) | 1 (6.3) | 1 (2.0) |
| Pleural effusion (%) | 1 (6.3) | 2 (3.9) |
| Acute Pancreatitis (%) | | 1 (2.0) |
| Follow-up | | |
| Follow-up duration in months | 4.0 (2.0-5.0) | 1.0 (0.5- 2.0) |
| Presence of symptoms during last follow-up (%) | 2 (14.5) | 3 (6.7) |
| LFT normalized during last follow-up visit (%) | 7 (46.7) | 24 (53.3) |
| Duration for total bilirubin to normalize in months | 3.0 (3.0-4.5) | 1.0 (0.5- 2.0) |
| Duration for AST/ALT to normalize in months | 4.0 (3.0- 5.3) | 1.0 (1.0- 2.3) |

CONCLUSIONS

- The majority of Hepatitis A infections in children are self-resolving.
- Anicteric presentation and ascites are more common in younger children, whereas almost one-fourth of the older children develop cholestasis during illness.
- The cholestatic phase of Hepatitis A takes a longer time to resolve.
- Pruritus in Hepatitis A responds well to medications