
STONE DISEASES IN CHILDREN

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ABSTRACT

Cholelithiasis and Urinary calculus are very rare in childhood. Therefore we present two cases of gallstones and four cases of urinary calculi.

Key words : Cholelithiasis, urolithiasis, childhood, ultrasonography (USG).

INTRODUCTION

Cholelithiasis is more common in children than previously supposed in the phrase---“fat, female, fertile, forty, fat intolerance”. Prenatal or fetal gallstones are reported rarely^{1,2} e.g. at 36 weeks of gestational age. Udeshi et al. reported a fetal stag-horn renal calculus detected by Ultrasonography between 18 & 20 weeks of gestation. Sonography is the initial test of choice as it is painless, non-ionizing and relatively cheap. In some cases, isotope renogram is needed to assess individual kidney functions.

CASE REPORTS

Case 1

A boy aged 11 years presented with pain in right hypochondrium and was treated with antacids and antispasmodic drugs, but was not cured completely. Abdominal ultrasonography revealed a small calculus in gallbladder, but there was no history of fat intolerance. Spontaneous disappearance was noticed in a month, but recurrence of the gallstone was found after one year. To avoid the risk of obstructive jaundice, cholecystectomy was done and the sonographic finding was confirmed.

Case 2

A boy aged 3 years 8 months complained of painful hematuria on 15th August, 1994. Ultrasonography revealed a 5 X 10 mm calculus

in right kidney. The patient did not have surgery and was lost to follow-up, but came again on 17th April, 1995 with recurrent painful hematuria. His father told that he was symptom-free during this interval of eight months. Repeat ultrasonography revealed bilateral nephrolithiasis and the patient was referred to uro-surgeon, but could not be followed-up.

Case 3

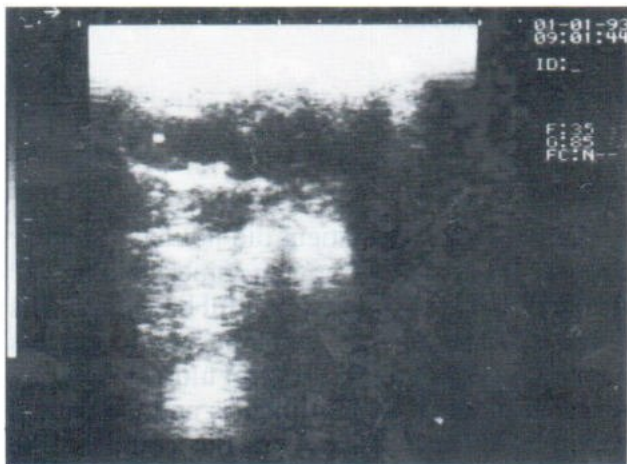
A boy aged 10 years came with complain of dysuria. Ultrasonography revealed small right kidney (6 cm long), normal left kidney (8.5 cm long) and a vesical calculus (4.8 cm diam.). He was also lost to follow-up.

Case 4

Recurrent urinary calculi was found in a boy. At 9 years of age he was operated to remove vesical calculus. After 1 year i.e. at 10 years of age he again came with loin pain and ultrasonography revealed a 17 mm stone in the right kidney. Gamma Camera renogram using intravenous 1 milliCurie 99m Tc-DTPA showed normal left kidney and obstructive nephropathy in the right side. He had right nephrolithotomy and was improved clinically.

Case 5

A boy aged 7 years came with abdominal pain and severe vomiting. Ultrasonography showed a gallstone. Other investigations revealed no any abnormality. Surgery confirmed the ultrasonic finding---cholecystectomy made the patient symptom free.

**Case 6**

A boy of 6 years complained of dysuria for 2 years and was neglected due to poverty. A plain X-ray of abdomen showed a big calculus in the urinary bladder. Ultrasonography revealed 2.5 X 1.5 cm vesical calculus and bilateral pelvicaliectasis in both kidneys. (Fig.1)

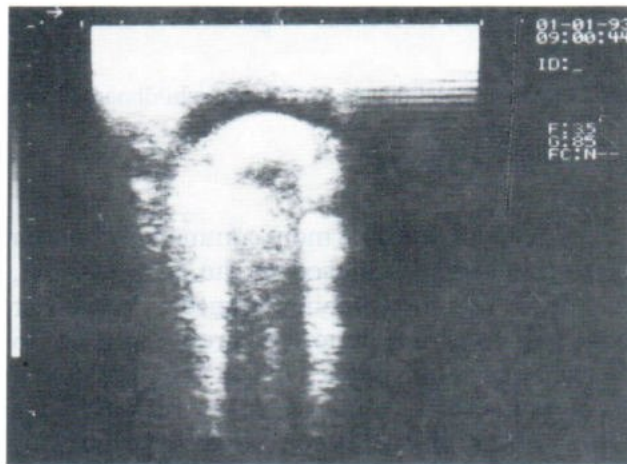


Fig. 1. Vesical calculus (Case 6)

DISCUSSION

In children, gallstone and urolithiasis are rare, but it is important to be diagnosed early and non-invasively e.g. by ultrasound and isotope renogram. People are afraid of surgery especially in children and may be the reason of failure to follow-up. Infantile gallstones often disappear spontaneously over time, the exact mechanism of disappearance is unknown.³ The causes of gallstones in children include hemolytic disease (e.g. sickle cell disease), prematurity, total parenteral nutrition, furosemide, biliary and cardiac malformations, hepatolenticular degeneration (Wilson disease), genetic factors (e.g. Pima Indians), liver diseases, abnormal entero-

hepatic circulation (due to ileal disease, cystic fibrosis, pancreatic insufficiency, bacterial overgrowth, short gut), obesity, gallbladder disease and oral contraceptive.⁴ The total incidence of obstructing or potentially obstructing uropathy of the lower urinary tract in childhood is about 1 in 1000 general pediatric admissions.⁶ A small renal stone may dissolve by diuresis therapy, bigger stones need percutaneous removal or extracorporeal shock wave lithotripsy or nephrolithotomy; bilateral renal calculi may indicate a metabolic disorder and should be investigated vigorously.

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