

## TEACHING FILE

### Grand Rounds

Ira Shah

#### BILIARY ASCARIASIS

**Clinical Problem :** A 7 years old boy presented with fever and right hypochondriac abdominal pain for a 1 month. There was no vomiting or jaundice. He underwent an ultrasound (USG) abdomen that showed edematous common bile duct with round worm like linear structure at porta. Stool examination was normal. Liver function tests were normal. Hemogram showed anemia with eosinophilia (absolute eosinophil count = 2560 cells/cumm). X-Ray abdomen showed air fluid levels.

#### How to treat biliary ascariasis?

**Expert Opinion :** Ascariasis is the commonest helminthic infection in the world. The adult round worm normally lives in the small intestine. Sometimes they tend to invade the bile or pancreatic ducts. Most patients present with upper abdominal colicky pain. Diagnosis of round worm in common bile duct is established by USG abdomen. Treatment consists of initially conservative therapy with antispasmodics and albendazole (single dose of 400 mg). Endoscopic or surgical intervention is required when conservative treatment fails. Repeated deworming may be required. Occasionally the worm may die in the bile duct. The presence of a dead worm forms a nidus for stone formation. Intervention is required in those critically sick with pyogenic cholangitis or worms failing to leave the biliary free within four weeks as by that time they are presumed to be dead and need extraction of worms with stone.

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Quick Response Code

#### RECURRENT KETOTIC HYPOGLYCEMIA

**Clinical Problem :** A 4 years old boy presented with recurrent ketotic hypoglycemic convulsions at 1½, 3½ and 4 years of age. Currently on examination, he was detected to have hepatomegaly (liver 2cm palpable with span 7 cm). Liver function tests were normal. In this child, growth hormone, lipid profile, cortisol, thyroid functions were normal. Urine and plasma aminoacidogram were normal.

#### Does this child have a liver cause of ketotic hypoglycemia?

**Expert Opinion :** Usually with hypoglycemia, the normal physiological response is reduction of insulin secretion, release of glucagon, adrenaline, initiation of glycogenolysis and gluconeogenesis with lipolysis. Lipids are metabolized to triglycerides in turn to fatty acids and then to ketone bodies which are used by the brain as alternate fuel. Thus absence of ketosis indicates excessive insulin or fatty acid oxidation defect. Classical ketotic hypoglycemia is the commonest cause of hypoglycemia in children less than 4 years of age. Other causes of hypoglycemia with ketosis are growth hormone deficiency, hypopituitarism, adrenal insufficiency and organic acids. In this child, all other causes of ketotic hypoglycemia had been ruled out. Liver disease that can cause ketotic hypoglycemia are glycogen storage disease (GSD). Since in this liver was not large, it is unlikely to be GSD. Other causes that are associated with decreased hepatic glucose production

include galactosemia, hereditary fructose intolerance and maple syrup urine disease, they usually have other manifestations also.

Thus in this child, it does not appear to be a liver cause of hypoglycemia but classical ketotic hypoglycemia.

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#### ANTIRETROVIRAL THERAPY - SWITCH OF THERAPY

**Clinical Problem:** A 6 years old HIV infected boy was referred for further management. He was on antituberculous therapy (ATT) for past 2 months in view of pulmonary TB and father having died of TB 8 months ago. His CD4 count was 630/cumm (12 percent). In view of good CD4 count, ART was not started. At 7 years of age, his X-Ray Chest had remained the same (bilateral perihilar haziness) and CD4 count was 447 (18.6 percent) with weight of 20 kg. He was thus started on antiretroviral therapy consisting of Zidovudine (AZT), Lamivudine (3TC) and Efavirenz (EFV) following which his Chest X-Ray improved and ATT could be stopped. He was then continued on ART. At 9 years, his weight had increased to 40 kg and CD4 count was 1535 (49.2 percent) with CD4: CD8 of 1.14. He was then referred to an ART center for free ART and he was shifted to AZT plus 3TC and Nevirapine (NVP) instead of EFV.

#### Is it agreeable to shift a patient doing well on Efavirenz based regime to Nevirapine based regime?

**Expert Opinion :** Switching of efavirenz to nevirapine can be done in patients who have a suppressed HIV virus. Since both belong to the NNRTI group, both have same action. Switch in this case can ease the number of pill as AZT, 3TC and NVP are available as fixed drug combinations and also the cost of therapy. Efavirenz is used for the antiretroviral treatment of HIV, tuberculosis-coinfected patients in developing countries. A switch to nevirapine is regularly carried out because of the cost and side effects of efavirenz. Pharmacokinetic studies suggested that nevirapine should be initiated at full dose when used as a substitute for efavirenz. However before switching one should always make sure that the virus is suppressed by doing the HIV viral load

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