# CASE REPORT

## ACUTE VIRAL HEPATITIS A: A CAUSE OF JAUNDICE IN TYPHOID FEVER

Polrat Wilairatana

Hospital for Tropical Diseases, Faculty of Tropical Medicine, Mahidol University, Bangkok 10400, Thailand

**Abstract.** A typhoid patient presenting with fever and jaundice is reported. Investigations revealed that the patient had both typhoid fever and acute viral hepatitis A. Jaundice is a rare clinical presentation in typhoid fever, therefore hepatitis A should be considered in typhoid fever and jaundice because both enterically transmitted disease may simultaneously occur.

In typhoid fever, severe hepatic involvement with jaundice is rare with an occurrence of 3-5.4% of typhoid cases (Ramachandran *et al*, 1974; Soubeyrand *et al*, 1980). Robbins (1974) suggested that *Salmonella* invasion of intestinal lymphatic tissue leads to a host reaction with hyperplasia of the liver reticuloendothelial system and infiltration of portal spaces and microcirculation causing liver necrosis. Alternative suggestions are that bacteria and endotoxins cause the hepatic alterations (Nasrallah and Nassar, 1978; Ramachandran *et al*, 1974; Soubeyrand *et al*, 1980). A case of typhoid fever with jaundice which proved to be due to an acute viral hepatitis A infection is reported.

A 28 years old Thai man came to the Bangkok Hospital for Tropical Diseases with fever and jaundice. Ten days prior to admission, the patient had fever with chills, headache, myalgia, anorexia, nausea, and vomiting. He was treated as influenza at a local hospital without improvement. Three days before admission, the patient still had fever and became jaundiced. On examination he looked moderately ill, jaundiced, and dehydrated. His temperature was 37.8°C and his pulse was 94/minute. He had a slightly tender liver, with span of 10 cm. Blood cultures were positive for *Salmonella typhi*. Biochemical liver profiles were markedly elevated: total bilirubin 5.9 mg/dl, SGOT 465 U/l, SGPT 395 U/l, and alkaline phosphatase 84.4 U/l. The Widal test was positive with a titer of 1 : 640. Anti-HAV IgM was positive while HBsAg, anti-HBc IgM, anti-HCV, anti-HIV, melioidosis titer, and *E. histolytica* titer were negative. Hepatobiliary ultrasonography showed normal size of liver with homogeneous parenchyma. No intrahepatic mass or dilated bile duct was observed. His final diagnosis was typhoid fever and acute hepatitis A infection.

This patient presented with 10 days of febrile illness followed by 3 days of jaundice. The clinical presentation was unusual. Patients with viral hepatitis often have fever in their prodomal phase and, by the time the icteric phase appears, the fever has usually subsided (Schwartz *et al*, 1994). In addition, patients with typhoid fever had never before presented in our setting with jaundice. After investigations, the results showed that the patient had simultaneous 2 enterically transmitted diseases, typhoid fever and HAV infection.

Many cases of typhoid fever with jaundice were reported mostly from India (Ramachandran *et al*, 1974; Le *et al*, 1976; Singh *et al*, 1978; Schankar and Kerjriwal, 1986; Khosla *et al*, 1988) and jaundice may be observed at any time during the course of typhoid fever (Caredda *et al*, 1986). HBsAg was tested in some of those cases and the results were negative. however, no test was done for anti-HAV IgM. The incubation period for hepatitis A (2-6 weeks) is similar to typhoid fever (1-8 weeks). Therefore, it is possible to get both enterically transmitted diseases simultaneously, even from one inoculum (Schwartz *et al*, 1994). In hepatitis E endemic areas, hepatits E, which has similar mode of transmission and incubation period to HAV, may also be another co-infection with typhoid fever. Therefore, the assumption that typhoid fever alone may cause jaundice needs to be proved (Schwartz *et al*, 1994).

The presented case shows that acute viral hepatitis A should be considered in patients with typhoid fever and jaundice because both enterically trans-

mitted infections may simultaneously occur.

## REFERENCES


Caredda F, Antinori S, Re T, *et al.* Acute non-A non-B hepatitis after typhoid fever. *Br Med J* 1986; 292 : 1429.

Khosla SN, Singh R, Singh GP, *et al.* The spectrum of hepatic injury in enteric fever. *Am J Gastroenterol* 1988; 83 : 413-6.

Le VD, Tran QM, Nguyen VC, *et al.* Typhoid fever with hepatitis. *J Trop Med Hyg* 1976; 79 : 25-7.

Nasrallah SM, Nassar VH. Enteric fever. *Am J Gastroenterol* 1978; 69 : 63-9.

Ramachandran S, Godfrey JJ, Perera MVF. Typhoid hepatitis. *JAMA* 1974; 230 : 236-40.

Robbins SL. Pathologic basis of disease. Philadelphia: WB Saunders, 1974: 397.

Schankar V, Kerjriwal NL. Typhoid hepatitis. *J Indian Med Assoc* 1986; 84 : 277-8.

Schwartz E, Jenks, Shlim DR. Typhoid hepatitis or typhoid fever and acute viral hepatitis. *Trans R Soc Trop Med Hyg* 1994; 88 : 437-8.

Singh DS, Rajendran Nair PN, Krishnasamy S, *et al.* Jaundice in typhoid fever. *J Trop Med Hyg* 1978; 81 : 68-70.

Soubeyrand J, Rain B, Condat JM, *et al.* Atteintes hépatiques au cours de la fièvre typhoide. *Sem Hop Paris* 1980; 56 : 728-31.