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Radiological Quiz

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MJAFI 2003; 59 : 305

A male patient, 35 years, presented with complaints of low-grade fever, weight loss and dry cough for the preceding 15 days. On examination, pulse was 110/min, respiratory rate 30/min, and chest was clear. Liver was palpable 7 cm below right costal margin (span 18 cm). Spleen was palpable 3 cm below left costal margin.

Blood counts showed haemoglobin level of 9.0 g/dl. Sputum study for acid-fast bacilli and Mantoux test were negative.

The chest radiograph (PA view) is given in Fig 1. CT scan chest is given in Fig 2. Ultrasound of abdomen

showed enlarged liver (18.2 cm), spleen (15.5 cm) and demonstrated multiple ill defined lesions measuring 3-4 mm in diameter. CT scan abdomen is shown in Fig 3. What is the diagnosis?

Fig. 1 : Chest X-ray, PA view

Fig. 2 : CT scan chest

Fig. 3 : CT scan abdomen

Answer to the quiz - pg. 359

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While neonatal malaria has been reported in Africa [2] there is a paucity of similar reports from other parts of the world. Reports of malaria in the neonatal period were common in India in the 1970's and 1980's [3,4]. However, though there has been a resurgence of malaria in India in the last decade, reports of neonatal malaria are hard to come by now.

In our report, the first neonate presented with fever and had a mixed infection that was resistant to chloroquine. Infection in this case is likely to have been acquired from environment because of the time lag between birth and onset of symptoms and the negative history in mother. The second was a premature neonate that presented on the tenth day of life with jaundice. Though the mother showed no features of malaria, the short incubation period suggests that the infection in this case could be congenital. The absence of parasitemia in mothers of neonates with congenital malaria has also been reported in a study from Uganda. This could be because of low levels of parasitemia that may not be picked up on routine microscopy [5]. Malaria in premature neonates is extremely rare, with only a few case reports existing in English-medical literature [6,7]. To the best of our knowledge, this is the first instance of use of artesunate in a premature neonate.

Reports of neonatal malaria resistant to chloroquine have been on the rise in the last decade. 25% cases of congenital malaria from Nigeria were found resistant to chloroquine [1]. Reports of resistance to quinine have also been noted and are a cause for serious concern because of limited experience in use of alternates like halofantrine, mefloquine and artesunate in neonates

[1,8,9]. It is a matter of concern that both the neonates in our report were resistant to chloroquine, though they eventually responded to other anti-malarials.

To conclude we have reported two cases of chloroquine resistant falciparum malaria from India, one of which was in a premature neonate. In endemic areas, malaria has to be considered in the differential diagnosis of neonatal sepsis.

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Answer to Radiological Quiz :

Chest radiograph and CT scan chest show miliary shadows. CT scan abdomen shows multiple hypoechoic lesions in liver and spleen. This individual was a case of HIV infection. Liver biopsy showed the lesions to be tubercular granulomas with abundance of acid-fast bacilli in necrotising lesions.

HIV infection has a significant impact on the demographics of tuberculosis including miliary tuberculosis. Extra pulmonary disease occurs in more than 70% patients with tuberculosis and pre-existing AIDS [1]. Lesions can be seen in spleen, liver, lungs, kidneys, adrenals and eyes [2]. In majority of cases with splenic involvement, the lesions are in the form of

multiple abscesses. Most often, the finding of multiple hypodense, small splenic foci is the result of granulomas or abscesses caused by *Mycobacteria*, *Pneumocystis carinii* or fungi. Similar small abscesses are frequently reported with Gram-negative infection [3].

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