



Two Infant Cases of Tuberculosis Diagnosed During the Assessment for Cardiac Surgery

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Opinion Article

Two male infants, 5/12 and 9/12 years old, with Down syndrome, congenital heart anomalies, and recurrent pulmonary infections were referred to our hospital for cardiac surgery. The 5-month-old infant was 3500gr and 57cm (both <3rd percentile). On physical examination (PE) he had pallor, fever, bilateral sibilant rales, crackles, and the signs of congestive heart failure. His transthoracic echocardiography revealed atrioventricular septal defect, pulmonary hypertension, and fibrinous pericardial effusion. Laboratory findings were normal except for moderately elevated acute phase reactants with mild anaemia. Chest roentgenogram showed bilateral multifocal consolidations. Clinical and radiological findings didn't improve despite 3 weeks of large spectrum antibiotic treatment. There was no bacterial growth in the sputum cultures. His tuberculin skin test was negative, and the quantiferon test result was "indeterminate". The gastric lavage specimens were subjected to smear evaluation for acid-fast bacilli (AFB) and culture for mycobacteria using established methods. Computerized thora tomography (thorax CT) showed bilateral diffused ground-glass appearance and reticulonodular shadowing. Therefore, a bronchoscopy was performed by the paediatric pulmonologist. Since the cardiac surgery of our patient was an emergency, Isoniazid-Rifampicin therapy (10 mg/kg/day) was initiated as soon as the broncho alveolar lavage (BAL) sample was obtained. The therapy was changed to a 4-drug anti-TBC regimen after constrictic pericardium was detected during the cardiac operation, which was approved by pathology. BAL polymerized chain reaction (PCR) test result was positive for Mycobacterium tuberculosis. Unfortunately, the patient died on the 24th postoperative day. As

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a result of the family screening, his mother was identified as the source of infection. The second case, a 9-month-old infant, was 5300 gr and 63cm (both < 3rd percentile). He had been hospitalized 3 times for repeating pulmonary infections. On PE, he had pallor, cutis marmoratus, bilateral crepitations, and the signs of congestive heart failure. His transthoracic echocardiography demonstrated ventricular and atrial septal defects, mitral and tricuspid regurgitation. Laboratory values were normal except for slightly increased acute phase reactants with mild anaemia. His chest roentgenogram showed bilateral paracardiac consolidations and atelectasis in the right lung. Findings didn't improve despite 3 weeks of large spectrum antibiotic treatment. There was no bacterial growth in the sputum cultures. Torax CT showed consolidations with air bronchograms in the upper posteromedial part of the right lung, atelectatic regions in the upper and lower posteromedial zones of the left lung. Therefore, a bronchoscopy was performed. BAL sample PCR and acid-fast bacilli tests were negative. He was operated on and discharged from the hospital on the 10th postoperative day. Tuberculosis bacilli were produced in his BAL Lowenstein-Jensen culture on the 45th day. Treatment was initiated following the drug sensitivity test. His parents were also screened for TBC. Pulmonary tuberculosis is still an important cause of morbidity and mortality in children. It was reported that there are more than 1 million new cases of childhood TB annually. Delayed diagnosis is associated with more advanced disease and worse treatment outcomes [1-3]. On the other hand, diagnosis of TBC is challenging due to difficulties in gathering respiratory samples from the infant age group, absence of gold-standard diagnostic tests, and a wide spectrum of disease symptoms that overlap with pneumonia, malnutrition, immune deficiencies, and congenital heart anomaly-related congestive heart failure [4-6]. As a



conclusion, TBC should be investigated in children with recurrent and/or resistant pulmonary infections. It is important to remember that malnutrition or congestive heart failure symptoms may mimic and/or mask the symptoms of tuberculosis in children with congenital heart diseases.

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