

Delayed Pneumo-Mediastinum in Congenital Diaphragmatic Hernia

Mediastinal emphysema is a rare but reported complication in the management of congenital diaphragmatic hernia (1). The commonest cause is barotrauma due to mechanical ventilation and occurs while the patient is on the ventilator(2-4). We report here a newborn who developed gross mediastinal emphysema 48 hours after the cessation of the mechanical ventilation.

An 8-day-old female baby was admitted with progressive respiratory distress from the second day of life. On examination there was tachypnea without cyanosis. Clinical features were suggestive of left sided congenital diaphragmatic hernia and the diagnosis was confirmed by a plain X-ray of the chest. The diaphragmatic defect was repaired by an abdominal approach and elective post-operative mechanical ventilation was given using Infant Star ventilator. Chest X-ray 4 and 24 hours after surgery showed good expansion on the left side without any pneumothorax or pneumo-mediastinum. On the 2nd post-operative day the baby self-extubated; since he maintained normal oxygen saturation on oxygen enriched room air, re-intubation was not attempted. X-ray chest 24 hours after extubation (3rd post operative day) showed good lung expansion. The chest tube was removed and oral feeds were started. On the 4th post-operative day, 48 hours after cessation of mechanical ventilation, the baby developed tachypnea and a swelling was noticed in the supraclavicular region with crepitus over it.

Chest X-ray revealed a large pneumo-mediastinum with subcutaneous emphysema. Since the oxygen saturation on room air was normal, only the antibiotics were continued. Over a period of 10 days the swelling

disappeared without any symptoms of mediastinal sepsis. Chest X-ray on the 15th post-operative day showed near total resolution of the pneumo-mediastinum. The baby was discharged, and at a follow up one month later, was found to be asymptomatic clinically and radiologically. She was doing well at a 6 month follow up.

A Medicine search did not reveal a similar report of late occurrence of mediastinal emphysema following mechanical ventilation in congenital diaphragmatic hernia. Since no definite precipitating cause was found in our patient to account for the complication, we believe that a transient high transpulmonary pressure gradient in the post extubation period might have resulted in the pneumo-mediastinum.

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