Abdominal pain in children with pneumonia

Keywords: Pneumonia/Abdominal pain/Chest X-ray/Abdominal X-ray/ Pleural effusion

Children with pneumonia can experience abdominal pain and this may be the only symptom. Health professionals must be aware of this to avoid incorrect diagnoses.

Pneumonia is an inflammatory condition involving the lungs; patients usually present with fever, cyanosis and signs of respiratory distress such as tachypnoea, cough, decreased breath sounds and crackles (Paul et al, 2001). Abdominal pain can occur in children with pneumonia but may be the only presenting feature. Two explanations for such pain have been suggested:

- It could be a referred pain, secondary to diaphragmatic irritation from a basal pneumonia;
- It may arise from a mechanism similar to that of mesenteric adenitis (characterised by swollen lymph glands in the abdomen) (Ravichandran and Burge, 1996; Vendargon et al, 2000).

In a study of 1,168 children at Southampton admitted to the paediatric surgical unit with acute abdominal pain, 19 (1.6%) were found to have pneumonia with the only symptom being abdominal pain (Ravichandran and Burge, 1996). Another study involving children under 12 years of age suggested children presenting with abdominal pain, a cough, fever or upper respiratory tract infections should have an abdominal X-ray before an abdominal X-ray (Homier et al, 2007).

Clinical presentation and initial management

Four-year old Stacey Jones,* previously healthy, was referred with a two-day history of fever up to 40°C – despite being given regular antipyretics – and severe abdominal pain. Initial observations showed a temperature of 40°C, a pulse rate of 152bpm, respiratory rate of 34 breaths per minute, saturations 95% in air and a central capillary refill time of two seconds. She was unsettled during assessment but an examination of her abdomen did not reveal any tenderness. There were mild chest wall recessions and a few crackles on the left side of the chest, and air entry was reported as normal on both sides. The provisional diagnosis was a viral illness and the need to rule out pneumonia was documented. In view of the absence of signs on an abdominal examination and fever, a chest X-ray was ordered and Stacey was admitted.

Ongoing management

The chest X-ray showed a left-sided consolidation with possible pleural effusion (Fig 1). Stacey was started on intravenous co-amoxiclav and IV fluids. She continued to have good saturations in air. A repeat examination revealed dullness on percussion over the left chest wall and back, and bronchial breath sounds.

In view of the X-ray findings and raised inflammatory markers, a chest ultrasound scan was ordered to demonstrate pleural effusion (Paul et al, 2011). This scan showed a 1cm clear pleural effusion on the left lung, which had increased in size on a repeat scan. The fever and inflammatory markers were slow to resolve and, as the pleural effusion had grown, Stacey was transferred to the regional surgical unit for a chest drain insertion. Her temperature settled over the next 72 hours and her condition improved.

Progress

Stacey continued to improve so was discharged after five days at the regional unit. She was scheduled to be reviewed in the outpatient clinic with a repeat chest X-ray to review resolution of the pneumonia.

Conclusion

This case illustrates the importance of being aware of the difficulties in detecting pneumonia in younger children. A child presenting with abdominal pain and fever with no abdominal signs should be investigated with a chest X-ray to establish whether a silent pneumonia is present. NT

The patient’s name has been changed

References


