

kPa (100 mm Hg) and the peak inflation pressure reached on delivering a V_T of 800 ml was 30 cm H_2O . Slight radiological clearing of the lung fields was noted on day 4 (Fig. 5). On the seventh day PPV was discontinued and the patient was extubated. Oxygen was given with a Ventimask for several days after the ventilator therapy because she still had arterial hypoxaemia. Her Pao_2 values while breathing air were 9.84, 8.25 and 11.17 kPa (74, 62 and 84 mm Hg) on the days 8, 10 and 13 respectively. A chest film on day 11 showed the lung fields to be almost clear although some infiltrates were still present in both cases (Fig. 6). By the time of her discharge from hospital 27 days after the explosion, complete radiological resolution had occurred but her Pao_2 was still low at 11.17 kPa (84 mm Hg).

added, his systolic BP fell from 130 to 90 mm Hg and, therefore, PEEP was removed. A further 3 units of blood were transfused (making a total of 11 units) and reapplication of PEEP (10 cm H_2O) 2 hours later had no detrimental effect. PEEP was reduced to 5 cm H_2O on the third day after the explosion and to zero on the fourth. During the ventilator therapy a F_{IO_2} of 0.25-0.3 resulted in a Pao_2 of about 13.3 kPa (100 mm Hg), and the maximal inflation pressure reached on delivering a V_T of 1100 ml was 25 cm H_2O . Some clearing of the lung fields was noted on day 3. On the fourth day PPV was discontinued and he was extubated. The pulmonary condition was clinically much improved but his Pao_2 while breathing air was only 7.45 kPa (56 mm Hg). Oxygen was, therefore, given with a Ventimask for several more



Fig. 7. Case 3. Initial chest X-ray film showing ill-defined shadowing spreading outwards from the right hilum and to a lesser degree from the left.

Case 3

This 31-year-old male had external injuries which were confined to his legs. He complained, however, of retrosternal chest pain and difficulty in breathing. His BP was 120/80 mm Hg, pulse rate 64 per minute and respiratory rate 28 per minute. A chest X-ray 90 minutes after the explosion showed pulmonary infiltrates spreading throughout the right lung from the hilum, and some patchy infiltration in the left lung (Fig. 7). A fracture of the right tibia was reduced and primary wound excision performed under general anaesthesia 4 hours after sustaining the blast injuries. During anaesthesia blood was aspirated from the tracheobronchial tree and lung crepitations were heard.

After the operation PPV therapy was started with a Cape ventilator. When a PEEP of 10 cm H_2O was

days. Complete radiological resolution was noted on day 6. On day 14 his Pao_2 was 10.91 kPa (82 mm Hg).

Case 4

This 28-year-old male complained of severe retrosternal chest pain and dyspnoea. His respiratory rate was 36 per minute and he was slightly cyanosed. His BP was 100/60 mm Hg and pulse rate 120 per minute. Diffuse crepitations and expiratory rhonchi were heard in both lungs. His main external injury was a 50 per cent partial-thickness burn which involved mainly the anterior aspect of his whole body. A chest X-ray taken within 2 hours of the explosion revealed a well-defined round opacity of 8 cm diameter in the left mid zone, with less clearly defined opacities fanning out above and below it (Fig. 8). His Pao_2