[Pulmonary Embolism]

MEDICAL GRAND ROUNDS

October 3, 1957

Case 1.

A 64 YO CM had a significant past history of chronic productive cough for years, mild dyspnea on exertion for 1 year, and intermittent painless swelling of legs for some 18 months. Seven days pta he noted the sudden onset of burning pain across the entire anterior chest. There was associated dyspnea and apprehension but no syncope. The pain gradually localized to the right anterolateral chest and became pleuritic in nature. The pleurisy and dyspnea persisted without change until admission. Two days prior to admission he began coughing up grossly bloody sputum.

An admission he was afebrile, BP was 90/70, pulse 100. He appeared acutely ill, was tachypneic and cyanotic but not orthopneic. Neck veins were distended. Respirations were shallow and there was definite splinting of the right hemithorax. Dullness, decreased breath sounds, and coarse inspiratory rales were noted at the right posterolateral lung base, a friction rub was heard low in right axilla. The heart was thought to be normal except for a loud snapping P_2. The liver was felt 5 cm. below the right RCM and was tender. There was a trace of edema in the left leg; the right leg was grossly edematous to the thigh. No vessel tenderness was ellicited, Homan's sign was negative. EKG showed right strain pattern. Chest film showed an extensive infiltrate throughout the lower 1/2 of the right lung field. WBC was 10000 with a normal differential. UP was 22 cm. and CT-18 sec.

Some 12 hours after admission the patient underwent bilateral common femoral vein ligation. A large thrombus was noted distal to the ligature on the right. Patient was given small doses of heparin (50 mg q 12 h) throughout the course.

Gradual improvement was manifest in recession of tachypnea cyanosis and pleurisy. The chest infiltrate slowly cleared with coincidental formation of small pleural effusion. On the 10th hospital day the patient suddenly developed dyspnea which subsided after several minutes on mask O_2. He was relatively symptom free for several hours but then again became extremely dyspneic and expired within a few minutes despite efforts at respiratory assistance.

Autopsy revealed thrombi in both femoral veins, and in the right external iliac vein. There were multiple old pulmonary emboli with partical recanalization and a large, recent embolus in the right main pulmonary artery.

Case 2.

A 47 YO WF who was obese for many years but noted no other evidence of ill health until some 3 years pta when she developed thrombo phlebitis in the superficial veins of her right leg and abdomen. Symptoms subsided fairly promptly and the patient did well except for intermittent painless swelling of her feet and legs. Some 6 months before her terminal admission the patient noted gradual onset and progression of exertional dyspnea without orthopnea or PND. One month later ([redacted] 57) she developed thrombophlebitis of the superficial veins of her left leg and abdomen. She was admitted; treated with antibiotics with satisfactory subsidence of the process. No observation of the pulmonary status was referred to other than presence of slight tachypnea which was increased by the supine position.

After discharge the DOE persisted and was thought to gradually increase. She was readmitted 2 months later ([redacted] 57) with pronounced dyspnea and bilateral thrombophlebitis of the superficial leg veins. Except for obesity, tachypnea, suggestive cyanosis and evidence of thrombophlebitis the physical examination was not remarkable. Chest X-ray suggested right ventricular preponderance and prominent pulmonary artery segment but no parenchymal infiltrate was noted. VP-35 cm, CT-25 sec., arterial blood studies revealed desaturation on room air despite a minute ventilation of 16 liters. Vitalometry studies showed VC of 2 L. (62%) and 0.5 sec. EC of 1 L. (50%).

She was digitalized and was put on anticoagulants (heparin followed by dicoumarol) in therapeutic levels. Inferior vena cava ligation was entertained but not effected. During her 2 month stay she slowly improved symptomatically though hyperventilation persisted. Anticoagulants were discontinued shortly before discharge because of hematuria.

She did well with satisfactory exercise tolerance some 2 weeks after discharge, was then readmitted with brief history of severe lower abdominal pain and vomiting. She was acutely ill, febrile, tachypneic and cyanotic, had evidence of peritonitis. At surgery an infarcted loop of ileum was resected and an elective inferior vena cava ligation performed. Post operatively the patient required constant IPPB through tracheostomy to maintain arterial saturation. On the 10th post-up day she again developed signs of peritonitis. During preparation for repeat exploratory laporotomy she developed severe precordial pain culminating shortly in cardiac arrest. Efforts at resuscitation by cardiac massage were without effect.

Autopsy revealed multiple remote and recent pulmonary emboli and infarcts. Organized thrombi were found in the iliac veins, recent thrombi in the portal vein and mesenteric veins.

Case 3.

This is the case of a 77 YO CF who was first admitted to [redacted] on [redacted] 1957. The chief complaint was left lateral chest pain which she first noted 3 days prior to admission, and which had gradually become more severe. There was no history of edema, hemoptysis, or persistent cough. On physical examination patient had a temperature 102, pulse 80, respiratory rate 28 and blood pressure 160/60. There was dullness and absent breath sounds over the left posterior lung field. No cardiomegaly detected but rhythm was irregular. P_2 was greater than A_2. No murmurs heard. The spleen and liver were not palpable. WBC was 9800 with normal differential, BUN 43, CO_2 22.8, only significant lab findings, chest X-ray showed lingular infiltration. The patient was diagnosed as possible broncho pneumonia and treated with antibiotics with slow but satisfactory improvement. On [redacted] the patient complained of severe auterior right chest pain and X-ray revealed a new right lower lobe infiltrate. Patient began coughing up large amounts of bloody sputum. Pulmonary infarction was diagnosed. Patient was heparinized. On [redacted] had another attack of right sided chest pain and began auricular fibrillation. Patient was digitalized. Surgery was offered and was refused by patient. On [redacted] patient had another attack of chest pain, rapidly became moribund and expired. Autopsy report showed multiple pulmonary emboli and infarcts recent and old. No site for source of emboli was demonstrated.

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