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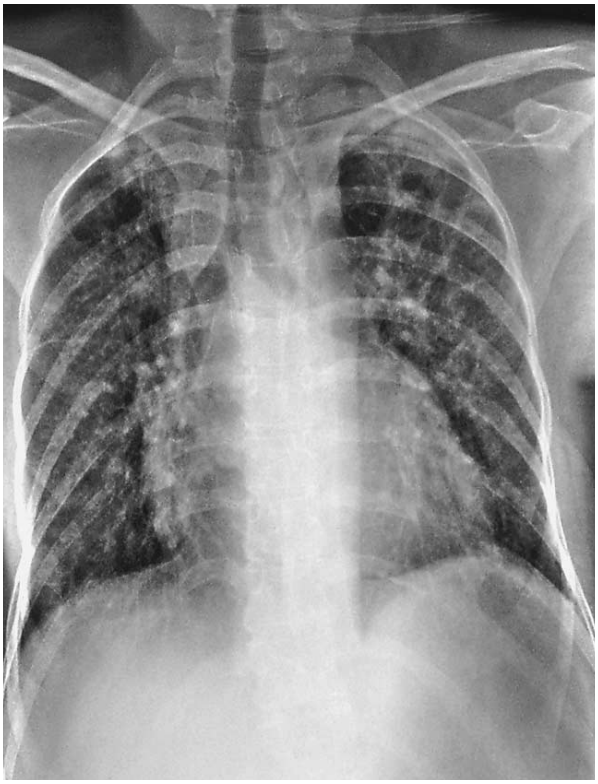
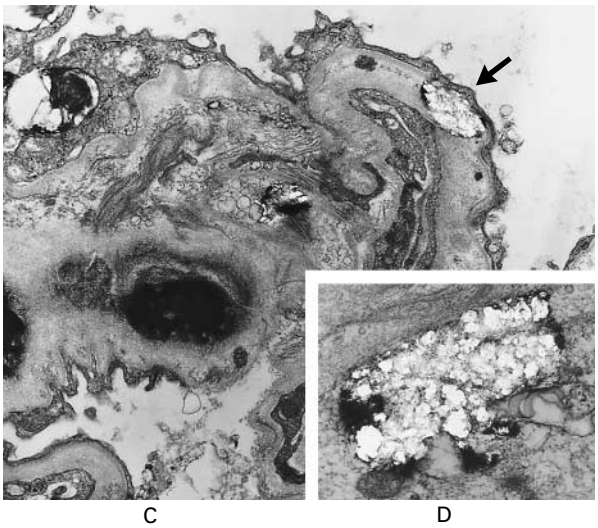


A



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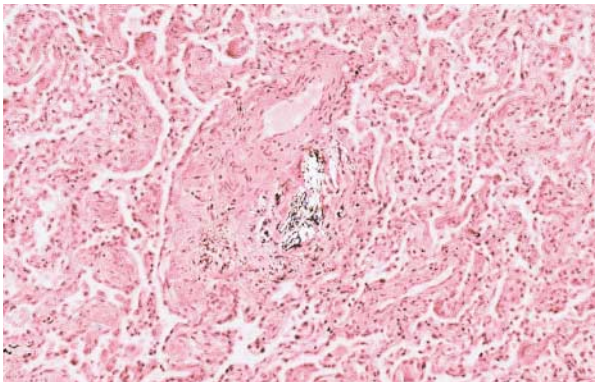

B

Pulmonary Granulomas in an Intravenous Drug User

A 28-year-old woman with a history of heroin use was admitted for increasing dyspnea. A chest radiograph (Panel A) showed diffuse bilateral pulmonary infiltrates that were predominantly interstitial. An open-lung biopsy was performed. Histologic analysis showed medial hypertrophy of medium-sized pulmonary arteries indicative of pulmonary hypertension, as well as occasional foreign-body granulomas. Polarized light microscopy (Panel B) revealed refractile particles in the outer portion of the wall of a pulmonary artery (hematoxylin and eosin, ×40). Electron microscopy of lung tissue showed the ultrastructural aspects of the embolized microcrystalline material in an alveolar septum (arrow in Panel C, ×2100; Panel D, ×6600). In intravenous drug users, pulmonary granulomatosis is due to the repeated formation of microemboli of foreign material resulting from the injection of suspensions of crushed tablets or the contents of capsules intended for oral consumption. The foreign material consists of insoluble microcrystals (cellulose, talc, or starch) used as inert filler substances in oral pharmaceutical preparations such as methadone and barbiturates. There is no specific treatment for granulomatous lung disease related to intravenous drug use.

The open-lung biopsy was complicated by a pneumothorax. Progressive respiratory failure subsequently developed, and the patient died four weeks later.

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