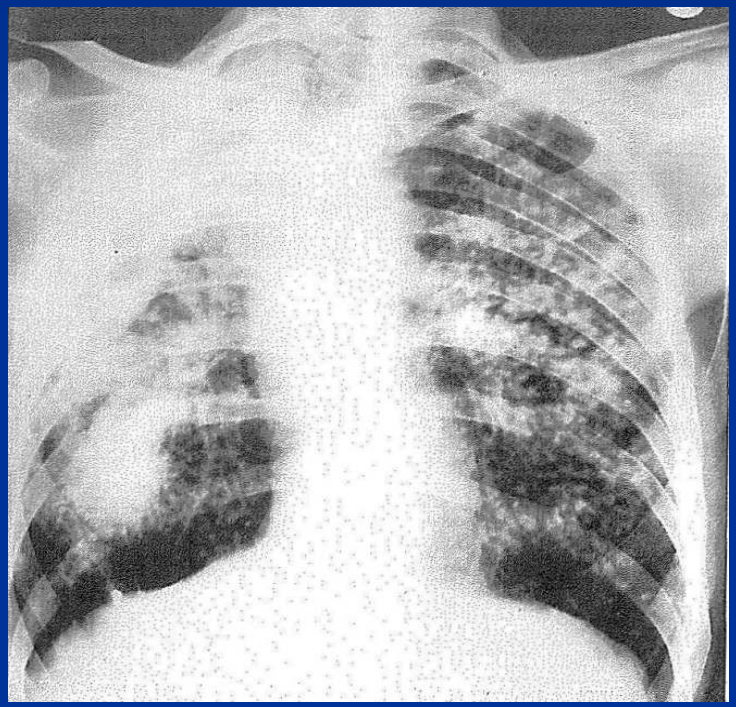
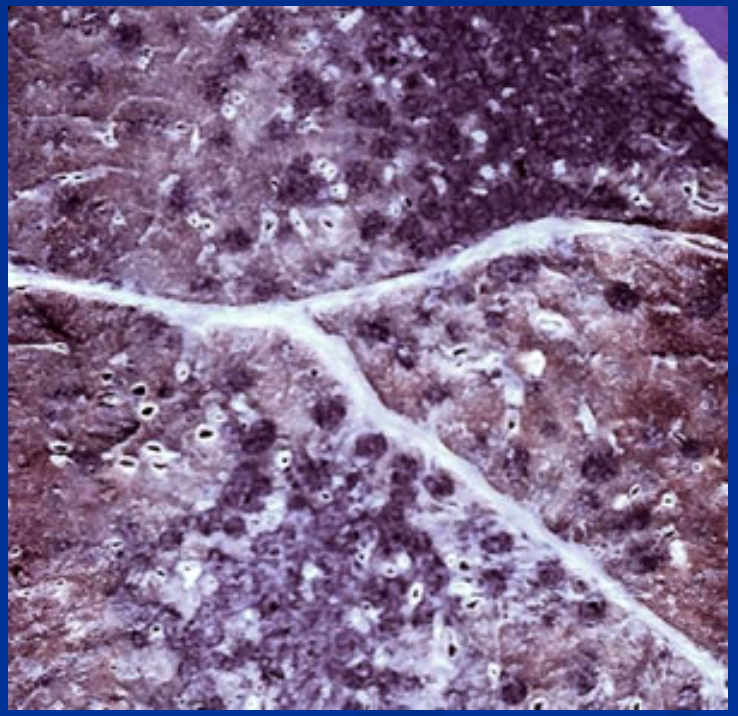
Silicosis





Silica Dust

Who may be affected:

- Sandblasters
- Pottery workers
- Mining, Quarrying, Tunneling, Drillers
- Foundry workers
- Stone Cutting, Polishing
- Brick workers

Variations

- Chronic Silicosis
- Accelerated Silicosis
- Acute - silicoproteinosis
- Si-tuberculosis

Acute Silicosis

- May develop after 1 to 3 years of exposure
- Distinctive feature is a proteinaceous fluid that fills the alveoli "silicoproteinosis"

Accelerated Silicosis

- May develop after 5 to 15 years of exposure
- Seen with blasters and silica flour workers
- May lead to progressive massive fibrosis and death

Chronic Silicosis

- Little respiratory impairment in early stages
- Significant chest x-ray changes usually after 10 to 20 years of exposure
- Simple
- Complicated: Progressive massive fibrosis
  - Coalescence of fibrotic nodules

Radiographic Findings

- Small (< 1 cm), rounded, nodular opacities
- “Diffuse fibronodular” disease
- Usually in mid/upper lung fields
- Coalescence, conglomeration with progression
- Progressive Massive Fibrosis

- “Egg-shell” calcification of lymph nodes

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Handouts

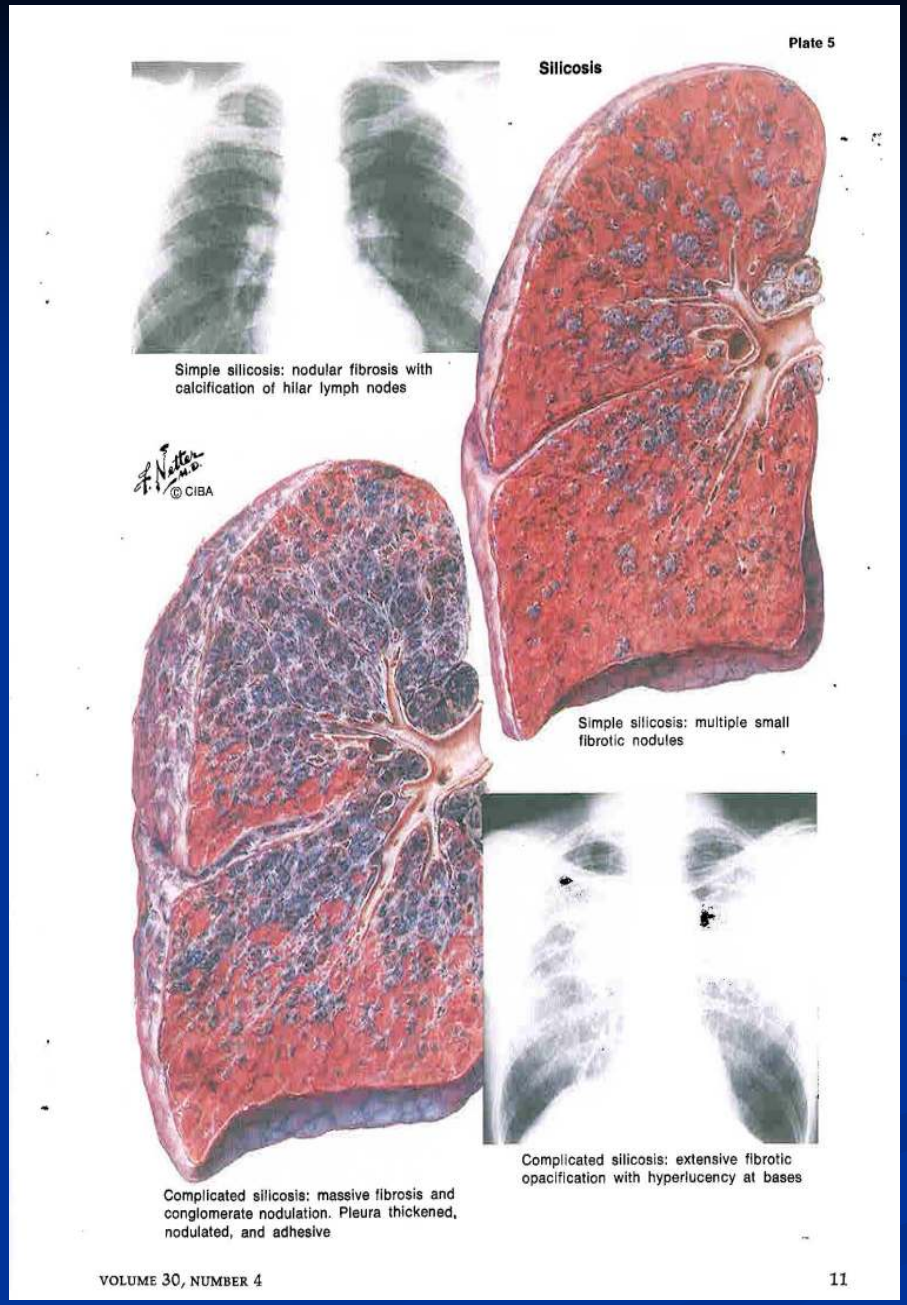

Plate 5

Silicosis

Simple silicosis: nodular fibrosis with calcification of hilar lymph nodes

F. Netter M.D.
© CIBA

Simple silicosis: multiple small fibrotic nodules

Complicated silicosis: massive fibrosis and conglomerate nodulation. Pleura thickened, nodulated, and adhesive

Complicated silicosis: extensive fibrotic opacification with hyperlucency at bases

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Grade 3/3

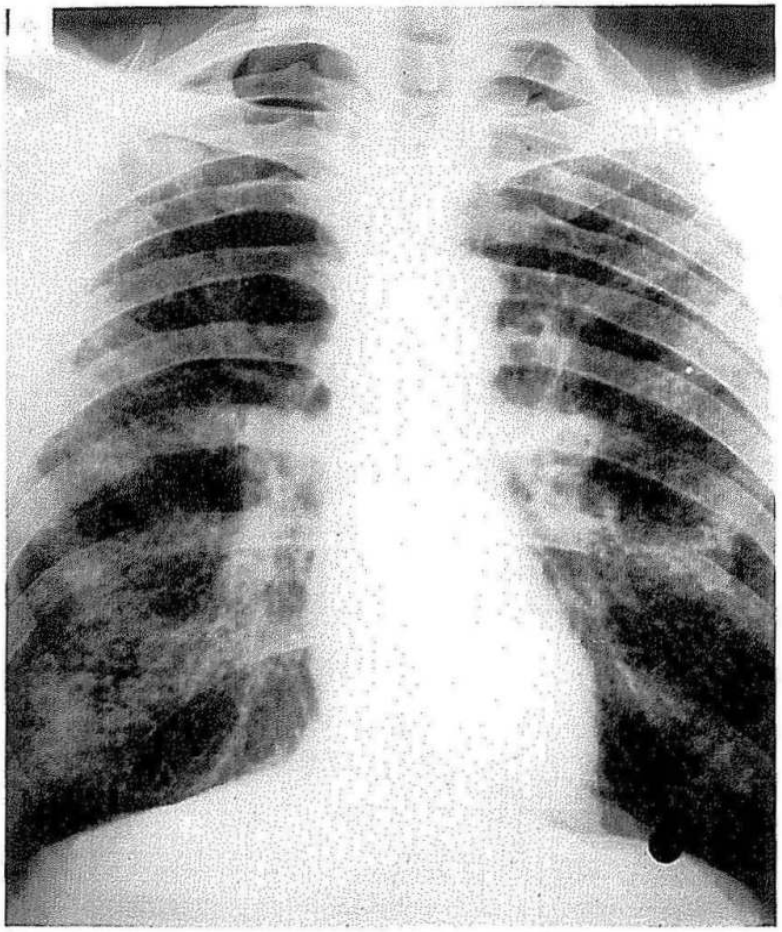

Figure 7–3 Chest radiograph of Welsh lead miner with heavy exposure to silica dust. Radiograph taken in 1952, showing category 3/3 simple silicosis. At this stage the man left the industry.

Progression - Complicated Silicosis (6 years later)

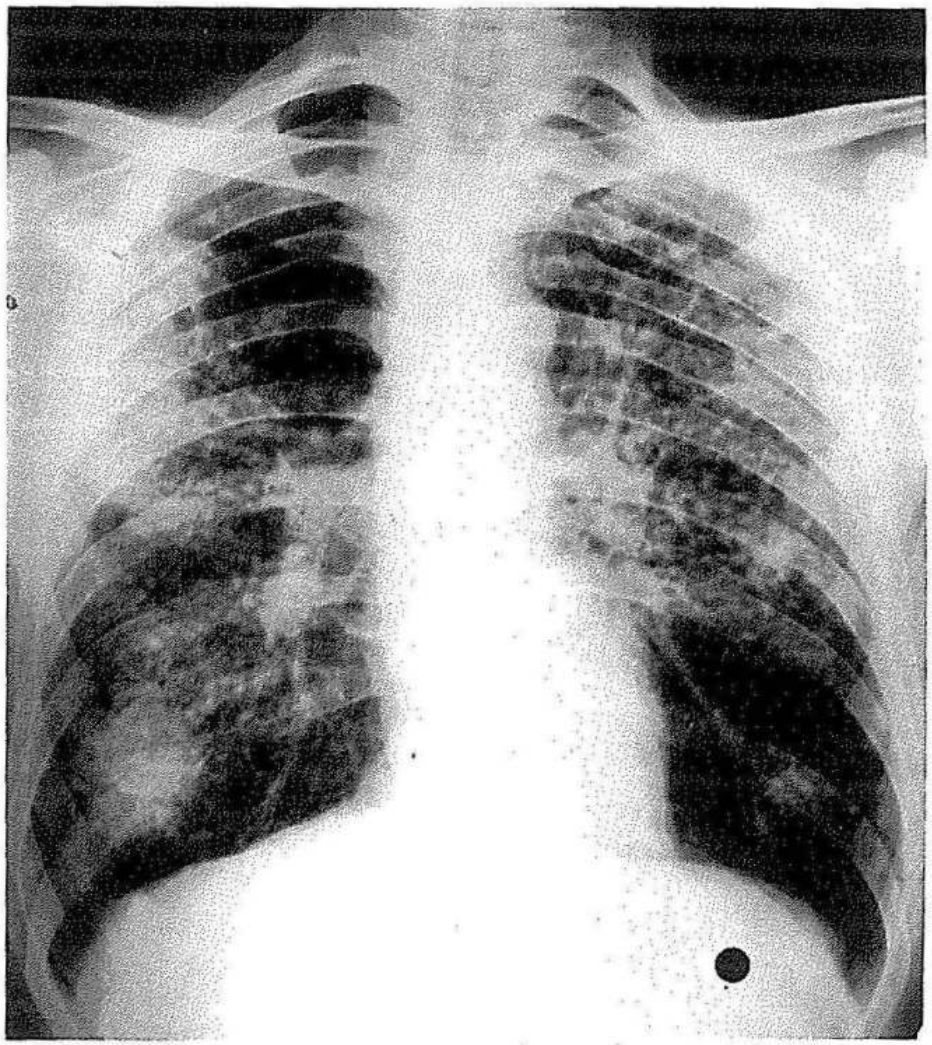

Figure 7–4 Radiograph of the same patient as in Fig. 7–3, taken in 1958. Category B complicated silicosis has developed in right upper and lower zones.

Further Progression – 6 yrs later

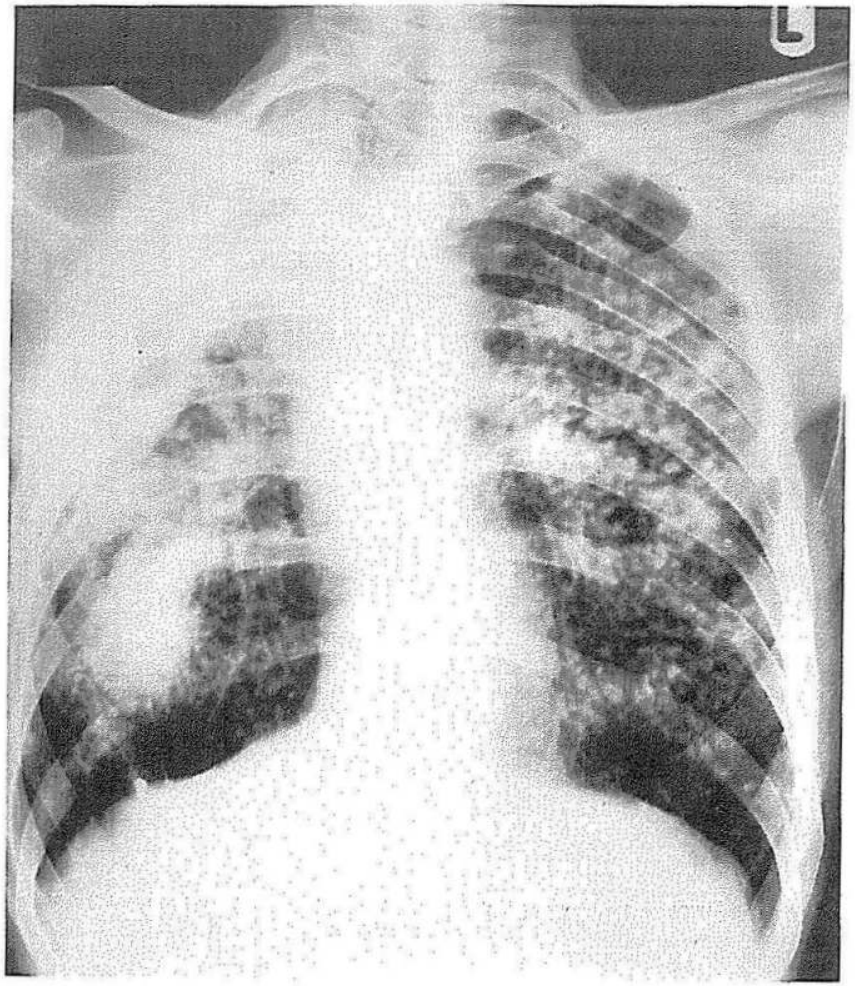

Figure 7–5 By 1964, the same patient as in Figs. 7–3 and 7–4 has stage C complicated disease and conglomeration is beginning in the left lung. Marked fibrosis is present over the right upper lobe and bullous change at the right base. (Figures 7–3 to 7–5 courtesy of Dr. J. Lyons.)

Complications

- Larger nodules > 1 cm
- Cough, sputum, infection, dyspnea
- TB – hemoptysis, weight loss, fever
- Cor pulmonale
- Bronchitis
- Emphysema
- Lung cancer
- “Mixed dust” fibrosis – e.g. miners

Diagnosis

- History of Exposure
- Characteristic Chest x-ray
- Pulmonary Function Testing
  - Normal/Restrictive/obstructive (mixed dusts)
  - Decreased DLCO
- May lead to several consequential conditions
  - TB, scleroderma, rheumatoid arthritis (Caplan's Syndrome), lupus

Program Guidance

- PM 2-800: need 10 year latency and ≥ or = 1/0
- PM E-500 Exhibit 2

What we covered

- The 3 presentations of silicosis and their latency.
- How the clinical picture of silicosis differs from asbestosis.
- Possible complications (consequences) of silicosis.

Questions