associated air pollution. It is possible that much of the effect of chronic bronchitis is attril indirectly to cigarette smoking and to air pollution. There is in New South Wales a highly s cant relationship between cigarette smoking and lung cancer. It was found that the greater number of cigarettes smoked, the greater was the risk of lung cancer.

-- Am. Rev. Resp. Dis. Ab

142 Influence of Respiration on Venous Return in Pulmonary Emphysema. F.K. Nakhjavan, W.H. Palmer, and M. McGregor. Circulation 33, 8-16 (Jan. 1966).

The influence of respiration on the flow of blood from the abdominal vena cava into the thora studied in 15 patients with pulmonary emphysema and in ten control subjects without thoraci disease or heart failure. During quiet breathing in the control subjects, blood flowed into th thorax throughout the respiratory cycle at a rate which was greatest during inspiration. Sin taneously, the transmural pressure of the abdominal vena cava fell and transmural right atr pressure increased. The same pattern of flow was observed in nine of the patients with emp In the other six patients, however, flow was greatly reduced or completely arrested during i spiration, with simultaneous increase in transmural caval pressure and reduction in transm atrial pressure. This inspiratory obstruction at the thoracic inlet was associated with gross inflation of the lungs and low diaphragmatic position. It probably was not the result of the hi negative and positive intrathoracic pressures that develop during inspiration and expiration, respectively, in such subjects. It is possible that this phenomenon may account for the peri edema that occurs in patients who have emphysema without associated hypertension or cardi

-- Am. Rev. Resp. Dis. Abs

143 The Effect of Posture on Respiratory Function in Patients With Obstructive Pulmonary Emph W.S. Erwin, D. Zolov, and H.A. Bickerman. Am. Rev. Resp. Dis. 94, 865-872 (Dec. 1966)

Respiratory function as measured by arterial blood gases and ventilometry is assessed in va positions ranging from the erect to the 20° Trendelenberg in ten patients with documented ob structive pulmonary emphysema. There were no significant differences in the values of bloo gases, pH, or residual volume of patients tested in the various positions. In general, the vit capacity, functional residual capacity, and flow rates were lowered when the patients were pl at 20° Trendelenberg, or with a 15 pound weight over the lower abdomen in the supine positi A significant reduction, averaging 20%, in the minute ventilation breathing room air occurred both the 20° and 10° head-down positions as compared with the erect positions. The finding v not associated with any alteration in the blood gases, suggesting a more efficient pulmonary ventilation. The 10° head-down position was more comfortable for the patient and, significan higher flow rates were recorded than for the 20° angle. There are 20 references.

-- Authors' summary

144 Experimental Production of Acute Pulmonary Emphysema in Newborn Piglets. Elinor M. Gla Am. Rev. Resp. Dis. 94, 873-881 (Dec. 1966).

The results of prolonged severe hyperventilation in newborn piglet littermates were studied. was found necessary to combine both low oxygen and high carbon dioxide in the inspired gas tc achieve this stressful hyperventilation to a degree of four to five times the level of the control animals. Exposure to 10% carbon dioxide and 7% oxygen for 24 hours resulted in marked hype ventilation. At autopsy the lungs were found to be over-inflated, weighed more, and showed s hemorrhage in contrast to the control littermates whose lungs were collapsed at death. Micro scopic findings of distended alveoli with ruptured walls and thinning of the walls gave a picture microscopically resembling pulmonary emphysema in man. The hyperventilated piglets had a greater weight loss without a greater urinary excretion. Arterial blood analysis showed the hyperventilated piglets to have a lower pH, Po_2 and per cent saturation, and an elevated Pco_2. These findings are consistent with the picture of acute pulmonary emphysema. There are 29 references.

-- Author's summary

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