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Title: Scanning electron microscopy of normoxic and hyperoxic hyperbaric exposed lungs

Authors: Ross, BK
Akers, TK

Keywords: pulmonary
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Issue Date: 1976

Abstract: Lungs from adult guinea pigs exposed to 1 ATA He-O₂ with 200 mm Hg PO₂ and 20 ATA He-O₂ with 200, 400, and 600 mm Hg PO₂ were studied with scanning electron microscopy. The appearance of normal alveoli is described. Even before pulmonary O₂ toxicity became symptomatic, subtle changes occurred in the alveoli, such as an increase in macrophages and a marked increase in length of alveolar type-II cell microvilli. These changes occurred in animals exposed to 400 mm Hg PO₂, heretofore considered below toxic levels. With increased toxic involvement, the number of alveolar type-II cells increased. A thick layer of material appeared in some of the alveoli, obscuring the Kohns pores and type-I and -II cell surfaces. The alveolar-capillary network with underlying erythrocytes was no longer observable. Lungs with the greatest toxic involvement possessed large numbers of macrophages encompassed by a fibrin-like matrix. The alveolar walls were broken down in many instances, and the alveoli were no longer discrete units but took on the appearance of an amorphous mass of lung tissue. Animals *Atmospheric Pressure Guinea Pigs Macrophages Male Microscopy, Electron, Scanning *Oxygen Pulmonary Alveoli/*ultrastructure Support, U.S. Gov't, Non-P.H.S.

Description: Undersea and Hyperbaric Medical Society, Inc. (<http://www.uhms.org>)

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