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of airborne fibers
greater than 5 µm in all
locations and aircraft
range of 5.7 to 38.5%
range of 20.5 to 54.8%
operations were in
same three
ion of airborne fibers
from 55 to 87%, 44

orkers. A study of
dhure P.H., Vasudeo
Hosp., Nagpur
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a view to assess the
epidemiological
of one of the cotton
orkers in the carding
122 workers from
problem were
were symptomatic,
ice of byssinosis had
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were below the
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L., Tingyl H.,
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6 months
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continuous administration of tetrandrine.
accumulation of the drug in liver, lung, kidney, and
adrenal gland was observed. The amount of drug
stored in the organs increased with the quantity of
drug given to the animal.

13.4.3. Asbestos dust; asbestosis

2141. Effect of BCG on experimental asbestosis - Zaidi S.H., Bhattacharjee J.W., Dogra R.K.S. and Saxena R.P. - Ind. Toxicol. Res. Cent., Lucknow-226001 IND - *IND. HEALTH* 1982 20/2 (129-137)

Chrysotile inoculated intratracheally into normal and BCG immunised guinea pigs incited a macrophage response and reticulin fibrosis. The immunised animals showed a more rapid localisation of pulmonary lesions and disappearance of the chrysotile fibers leading to accelerated focal fibrosis. A more rapid transport of chrysotile to the lymph nodes of immunised animals was also observed. These findings suggest that BCG vaccine can influence the development of pathological lesions of asbestosis in guinea pigs by inducing them earlier and more rapidly.

2142. Asbestos-related diseases - Casey K.R., Rom W.N. and Moatamed F. - Div. Resp., Critic. Care Occup. Med., Rocky Mountain Health, Univ. Utah Coll. Med., Salt Lake City, UT USA - *CLIN. CHEST MED.* 1981 2/2 (179-202)

Exposure to asbestos is an important public health hazard in all industrialized societies. The literature of asbestos and its biological effects is formidable in size and scope. This discussion will summarize the current knowledge of the epidemiology, pathophysiology, and clinical features of asbestos-related diseases with emphasis on controversies and new developments in our understanding.

2143. Lung disorders resulting from the inhalation of metals - Brooks S.M. - Clin. Studies Div., Univ. Cincinnati Med. Cent., Cincinnati, OH USA - *CLIN. CHEST MED.* 1981 2/2 (235-254)

A problem in identifying affected individuals may be related to the fact that often just a small number of workers are employed in any single operation or industry in which there is metal dust exposure. Consequently, medical and environmental information may not be as readily available as it might be in larger industries where occupational health programs are better developed, regulated, and supervised. Another consideration is that many of the metal pneumoconioses cause only chest radiographic alterations and are not associated with significant medical disability or symptoms. Because of this, there may be less interest or impetus to monitor these workers. However, many of the metals described in this chapter are extremely important, having critical uses and demands. Because of increasing demands, the use and need for these metals will generally increase over the next 10 years, with the result that greater numbers of workers will be exposed to them in the future. Thus practicing physicians need to be made more aware of the presence and manifestations of the various metal pneumoconioses, and the occupations in which they are likely to occur.

2144. Asbestos exposure and aspergillus infection - Hillerdal G. and Heckscher T. - Dep. Lung Med., S 75014 Uppsala SWE - *EUR. J. RESPIR. DIS.* 1982 63/5 (420-424) - summ in FREN

Four cases of asbestos-related changes of the lung complicated by aspergillus infection are described. In

such cases, the resulting clinical and radiological picture can give rise to some confusion. It is suggested that exposure to asbestos leads to changes in the bronchi and the lung parenchyma which can facilitate growth of the fungus. It is also possible that asbestos can affect the immune system in such a way that the body's anti-fungal defences are weakened. The aspergillus infection can mimic a tumor and/or lead to obstructive symptoms, and in one of the cases described an infected empyema was found.

2145. Morphology of malignant tumors in asbestosis (Czech) - Haskovcova I. and Dobias J. - II Patol. Anat. Ust. FVL UK, Praha CSK - *PRAC. LEK.* 1982 34/8 (277-279) - summ in ENGL, RUSS

In 10 persons deceased in the years 1971-1980 who had been regularly followed as effected by occupational asbestosis affection, bronchogenic cancer was observed in five cases and diffuse malignant mesothelioma in five cases also. Although the connection between cancer and exposure to asbestos has not been always univocal, mesothelioma appears to be unquestionably the consequence of this exposure.

2146. 'Oxalate bodies', another reaction of the human lung to asbestos inhalation? - De Vuyst P., Jedwab J., Robience Y. and Yernault J.C. - Chest Dep. Clin. Univ., Bruxelles BEL - *EUR. J. RESPIR. DIS.* 1982 63/6 (543-549)

A bronchoalveolar lavage (BAL) performed in a 23-year-old insulation worker enabled the recovery of amosite fibres coated with crystalline particles, which were identified as calcium oxalates by micro mineralogical techniques (polarizing microscopy, electron microprobe analysis and X-ray diffraction). This was the first time that such particles were recovered by BAL. These 'oxalate bodies' appear, besides the classical asbestos bodies, as another possible type of reaction of the human lung to inhalation of asbestos.

2147. Dust from working with asbestos or cement as a complex noxa mixture (Germ) - BEARBEITUNGSSTAUBE VON ASBESTZEMENT ALS KOMPLEXES SCHADSTOFFGEMISCH - Roedelsperger K., Manke J., Brueckel B. et al. - Inst. Arbeits- Sozialmed., Justus-Liebig-Univ., 6300 Giessen GFR - *ARBEITSMED. SOZIALMED. PRAVENTIVMED.* 1982 17/10 (257-261) - summ in ENGL

In a study of construction sites in Hessen asbestos cement fine and total dust mass concentrations were measured on 89 construction sites by static and personal sampling. For craftsmen themselves cutting with the grinding machine the mean fine dust mass concentration amounts to 1.8 mg/m³ during roof coverings with corrugated sheets, 1.3 mg/m³ during siding work, 2.8 mg/m³ during installation of ventilation shafts and 1.8 mg/m³ during installation of pipes. During fire insulation, 1.5 mg/m³ were reached without the grinding machine. The analysis of harmful components was performed by infrared spectroscopy, analytical electron microscopy and atomic absorption spectroscopy. Asbestos fine dust mass concentration above the limit value (TRK) especially resulted from personal sampling during the use of the grinding machine and from operation within doors.

2148. Asbestos fibres released from thermic cloths: A true occupational hazard - Loi A.M., Paggiaro P.L., Serretti N. et al. - Ist. Metodol. Clin. Lav., 56100 Pisa ITA - *G. ITAL. MED. LAV.* 1982 4/3 (117-120) - summ in

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The authors point out the possibility that asbestosis can be detected or almost suspected in workers exposed to asbestos fibres released from thermic curtains or clothes in various industrial environments. They report the case of seven workers of a metallurgic plant; these workers had been exposed to such a risk and showed 10 to 23 years later a radiological appearance of interstitial fibrosis with a slight or moderate respiratory impairment.

2149. Experimentally induced mesothelioma in white rats in response to intraperitoneal administration of amorphous crocidolite asbestos: Preliminary report - Kolev K. - Sci. Res. Inst. Hyg. Occup. Dis., Ind. Aerosols Lab., 1431 Sofia BUL - *ENVIRON. RES.* 1982 29/1 (123-133)

The experiment was performed on white rats that were administered intraperitoneally two types of crocidolite asbestos: fibrous and amorphous. The fibrous structure, with fiber length ranging between 3 and 5 μ m, and the amorphous state of the second type were proved by electron microscopy and infrared spectrophotometry. In the group treated with amorphous asbestos, at an average interval of 484 days after the administration, eight cases of mesothelioma were observed, while in the group treated with fibrous asbestos only three cases of mesothelioma were found, i.e., the results obtained show a statistically significant difference. The fibrous structure of asbestos as the predominant cause of peritoneal mesothelioma induction is questioned and a new explanation of the fact that amorphous asbestos induces approximately three times as many cases of mesothelioma than fibrous asbestos is considered.

2150. Evolution of asbestos disease of the remaining lung of patient pneumonectomized for lung cancer (Ital) - EVOLUZIONE DELLA MALATTIA ASBESTOSICA NEL POLMONE RESIDUO DI UN PAZIENTE PNEUMONECTOMIZZATO PER NEOPLASIA POLMONARE - Tomasini M. and Lo Cicero G. - Ist. Med. Lav., Clin. Lav. L. Devoto, Univ. Studi, Milano ITA - *MED. LAV.* 1982 73/5 (539-545) - summ in ENGL

A follow-up over a period of eleven years of the evolution of a case of asbestosis in a patient who had undergone pneumonectomy for lung cancer, who in the years subsequent to the operation developed a delayed impairment of diffusion function of the remaining lung and right ventricular hypertrophy.

2151. Adsorption of nucleic acids on asbestos fibers in vitro - Misra V., Rahman Q. and Viswanathan P.N. - Ind. Toxicol. Res. Cent., Lucknow IND - *TOXICOL. LETT.* 1983 15/2-3 (187-191)

Adsorption of DNA and RNA, accompanied by liberation of orthophosphate, occurred on contact with chrysotile asbestos fibers. This indicated that interaction of macromolecules and their components may be a factor, possibly involved in the manifestation of the toxic effect of asbestos fibers.

14. INFECTIONS AND TOXINS

2152. Which travelers ought to be immunized against hepatitis? (Germ) - WELCHEN AUSLANDREISENDEN IST EIN IMPFSCHUTZ GEGEN HEPATITIS ZU EMPFEHLEN? - Apotheloz M., Grob P.J., Steffen R. and Schar M. - Inst. Soz. Präventivmed., Univ. Zurich, 8006 Zurich SWI - *SOZ. PRÄVENTIVMED.* 1982 27/5 (264-265) - summ in ENGL, FREN

This review compares three studies which assessed

the risk of hepatitis in travelers. From these data it can be deduced that passive and possibly active immunization are indicated for selected groups only.

14.2. Zoonoses

2153. Decontamination of a *Histoplasma capsulatum*-infested bird roost in Illinois - Bartlett P.C., Weeks R.J. and Ajello L. - Coll. Vet. Med., Michigan State Univ., East Lansing, MI 48824 USA - *ARCH. ENVIRON. HEALTH* 1982 37/4 (221-223)

Histoplasma capsulatum was isolated from 27 of 34 soil specimens collected from a 3.23-hectare (8-acre) estate in Illinois that had been the site of a bird roost for more than 10 yr. When the estate was sold to a developer for the construction of a shopping center, it was feared that disturbing the roost would cause airborne transmission of spores of *H. capsulatum* and thus create a public health hazard for the workmen and surrounding community. To prevent this, the bird roost was decontaminated with the application of 3,785 ml (1 gallon) of 3% formalin per square foot of soil. Safety precautions were taken to minimize the inhalation of dust and formalin by the decontamination team. Thirty-five soil specimens collected after application of the formalin were negative for *H. capsulatum*. No cases of histoplasmosis occurred among the decontamination workers, construction crews, or the general population. The total cost of the decontamination project was \$75,000.

2154. Leptospirosis - Robertson M.H. - Dep. Microbiol., Princess Alexander Hosp., Harlow, Essex GBR - *PRACTITIONER* 1982 226/1371 (1552-1557)

Prevention is a matter of simple hygiene and good housekeeping in the workplace combined with education of the workers. Leptospirae are easily killed by changes in their environment. Weil's disease was prevalent in the Aberdeen fish market but not in Grimsby (Hampson, 1946) or Glasgow (Goudie, Weir and Wilson, 1952) because the gutting tables in Aberdeen were washed down with tap water of nearly neutral pH in which leptospirae survive, while in Grimsby sea water was used and in Glasgow the workers were using brine and kipping fluid, all of which are leptospirocidal. The sheds in all three ports were equally rat-infested. Washing down the tables, floors and fish boxes in Aberdeen with hypochlorite disinfectant combined with vigorous anti-rat measures eliminated the disease. Similarly, in coal mines the closing down or drainage of wet waterlogged workings, the abolition of underground pit-pony stables, improved anti-rat measures, and improved treatment for minor injuries banished leptospirosis from the miners. Sewage workers are now well aware of the disease and infections are unusual. In recent cases among trout farmers conditions on the affected farm were not good and the area was heavily rat-infested. This has now been corrected. In summary, prevention consists of: anti-rat measures in the workplace; drainage of waterlogged areas; appropriate use of disinfectants; provision of protective clothing for the workers; early treatment of skin abrasions; and prevention of accidental immersion in canals and ponds. Immunization is possible and has been used in Japanese coal miners and Italian rice farmers (Alston and Broom, 1958). Reactions were frequent and the trials, although extensive, were not very well controlled. They were successful nevertheless in reducing the incidence of the disease. The problem in Britain in recent years has not been great enough to