

DIALOG File 76: Life Sciences Collection -78-85/Aug (Copr. Cambridge Scientific Abs.)

876034 82000792214

Trends in cancer mortality among workers in the synthetic polymers industry.

Presented at: International Symposium on Occupational Hazards Related to Plastics and Synthetic Elastomers, Espoo (Finland), 22-27 Nov 1982

Nicholson, W.J.; Henneberger, P.K.; Iann, D.

Environ. Sci. Lab., Mount Sinai Sch. Med., City Univ. New York, New York, NY 10029, USA

Publ by: ALAN R. LISS, NEW YORK, NY (USA), 1984, pp. 65-78
1984

PROG. CLIN. BIOL. RES. 141. In INDUSTRIAL HAZARDS OF PLASTICS AND SYNTHETIC ELASTOMERS., Jaervisalo, J.; Praeffli, P.; Vainio, H. (eds.),

Languages: English

DOC TYPE: Book-chapter article

24 .Toxicology Abstracts

A high risk of death from liver HSA has been documented from past exposures to VC. Similar to other carcinogens, the risk of VC-induced liver HSA appears to increase as the second or third power of time from onset of exposure. It is possible to project future mortality using this power relationship, estimates of VC exposure, and observed mortality to 1980. These projections suggest that 200-600 deaths may occur in the United States and 550-2,800 in Western Europe from liver HSA. These projections also suggest that a 1 ppm standard in the VC industry will go far to protecting workers from future malignant disease.

Descriptors: mortality; vinyl chloride; occupational exposure; carcinoma; man

Section Heading Codes: 24155

833755 82000695719

Experimental respiratory carcinogenesis in small laboratory animals.

Pepelko, W.E.

Environ. Criteria and Assess. Off., U.S. EPA, 26 West St. Clair, Cincinnati, OH 45268, USA

ENVIRON. RES. 33(1), pp. 144-188, 1984

Languages: English Summary Languages: English

DOC TYPE: Journal article-review

24 .Toxicology Abstracts

This review addresses, primarily, the effects of inhaled chemicals, with the exception of radioactive compounds, upon induction of respiratory tract cancer in small laboratory animals. With certain chemicals such as vinyl chloride, where lung tumors are not always the major endpoint, a discussion of tumors at other locations is also included. Studies not included are those in which respiratory tract tumors have been induced by means other than inhalation, inhalation toxicology studies designed to address nononcogenic endpoints, or studies of such short duration that the development of lung tumors would be considered very unlikely.

Descriptors: reviews; carcinogenesis; organic compounds; vinyl chloride; respiratory tract; laboratory animals

Section Heading Codes: 24250

827892 82000682978

Incidence of cancer among vinyl chloride and polyvinyl chloride workers.

Heldaas, S.S.; Langard, S.L.; Andersen, A.

Res. Cent., Norsk Hydro a s Porsgrunn Fabrikker, 3900 Porsgrunn, Telemark Sentralsjukhus, 3, Norway

BR. J. IND. MED. 41(1), pp. 25-30, 1984

Languages: English Summary Languages: English

DOC TYPE: Journal article-original research

24 .Toxicology Abstracts

The results of a follow up study of the incidence of cancer and the mortality in a cohort of 454 male workers producing vinyl chloride and polyvinyl chloride are presented. The study population was restricted to employees with more than one year's work experience in the study plant between 1950 and 1969 and the cohort was followed up from 1953 to the end of 1979. Twenty three new cases of cancer were observed compared with 20 multiplied by 2 expected; one case of liver angiosarcoma was found. The possibility of a causal relationship between exposure to vinyl chloride and the development of malignant melanomas is discussed.

Descriptors: vinyl chloride; poly(vinyl chloride); induction; carcinoma; occupational exposure; man

Section Heading Codes: 24152

817583 82000649852

Toxicity of vinyl chloride and poly(vinyl chloride): A critical review.

Presented at: 2. Annual Symposium on Environmental Epidemiology, Pittsburgh, PA (USA), 27-29 Apr 1981

Wagoner, J.K.

8310 Carleigh Parkway, Springfield, VA 22152, USA

ENVIRON. HEALTH PERSPECT. 52, pp. 61-66, 1983

Languages: English Summary Languages: English

DOC TYPE: Journal article-review

24 .Toxicology Abstracts

In 1974, vinyl chloride (VC) was first reported in the open scientific literature to induce angiosarcoma of the liver both in humans and in animals. Additional research has now demonstrated the carcinogenicity of VC to other organs and at lower concentrations. The target organs for VC now clearly include the liver, brain and the lung, and probably the lymphohematopoietic system. The evidence for a carcinogenic risk has been extended to jobs associated with poly(vinyl chloride) exposure. Cases of liver angiosarcoma have been reported among individuals employed in PVC fabrication facilities and an epidemiological study has demonstrated a significant association between exposure to PVC dust and the risk of lung cancer mortality. Cases of angiosarcoma of the liver also have been reported among individuals living in near proximity to vinyl chloride-poly(vinyl chloride) plants. An association between PVC dust and pneumoconiosis also has been demonstrated. On the basis of findings, prudent control of PVC dust in the industrial setting is indicated.

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Descriptors: reviews: vinyl chloride; polyvinyl chloride;
carcinogenicity; man
Section Heading Codes: 24155

729777 82000423107

Cause-specific mortality study on VCM workers.

Ebihara, J.

Div. Work Environ. and Occup. Dis., Inst. Sci. Labour,
Tokyo, Japan

J. SCI. LABOU. 58(8), pp. 383-389, 1982

Languages: Japanese Summary Languages: English

DOC TYPE: Journal article-review

24 .Toxicology Abstracts

Cause-specific mortality study on VCM workers employed in M-company was carried out. The cohort was set up by 226 workmen on 1960 and observed until 1979. No cause of death were statistically significant with $p < 0.05$. However, death from all cause, all cancer, gastric cancer, liver and biliary tract cancer, lung cancer, leukemia, hypertension, other heart disease, liver cirrhosis, and accident were higher than expected. Death from all cause, all cancer, liver and biliary tract cancer and lung cancer were not significantly higher with $p < 0.05$ level, however, these causes were significantly higher than Japanese male with $p < 0.10$ level. Moreover, the relative death rates of both liver and biliary tract cancer and lung cancer were increased in accordance with the length of VCM exposure. The results revealed the possibility of carcinogenic effect of VCM on these sites.

Descriptors: vinyl chloride; monomer; occupational exposure
mortality; reviews; man

Section Heading Codes: 24154

692107 82000336774

Polyvinyl Chloride Wire Insulation Decomposition II:
Consideration of Long Term Health Effects From Chlorinated
Hydrocarbons.

Wallace, D.; Nelson, N.; Gates, I.

Public Interest Sci. Consult. Serv., 549 West 123 St. New
York, NY 10027, USA

J. COMBUST. TOXICOL. 9, pp. 105-108, 1982

Languages: English Summary Languages: English

DOC TYPE: Journal article-original research

24 .Toxicology Abstracts

Shortly after health status surveys had been completed on the survivors of the Beverly Hills Supper Club fire and on the firefighters injured during the New York Telephone fire, individual members of each group complained of new disorders and triggered new post-survey "ministudies". All women polled showed severe uterine dysfunctions, some resulting in hysterectomies or other hospitalization. The Telephone firefighter cohort showed atypical pattern of age distribution of cancer cases and cancer types, compared with the Fire Department as a whole. Literature on presence of chlorinated hydrocarbons in PVC pyrolysis and combustion smoke and on the health effects of chlorinated hydrocarbons is reviewed.

Descriptors: polyvinyl chloride; decomposition; fumes;
toxicity; man; reviews

Section Heading Codes: 24152

659401 82000243550

Power Considerations in Epidemiologic Studies of Vinyl
Chloride Workers.

Beaumont, J.J.; Breslow, N.E.

Industrywide Studies Branch F-8, Natl. Inst. Occup. Safety,
Hlth., 4676 Columbia Pkwy., Cincinnati, OH 45226, USA

AM. J. EPIDEMIOL. 114(5), pp. 725-734, 1981

Languages: English Summary Languages: English

DOC TYPE: Journal article-original research

24 .Toxicology Abstracts

Nine retrospective mortality studies of workers exposed to vinyl chloride were reviewed to determine whether differences in their hypothesis testing results might be due to differences in statistical power. Where possible, the power of each study was calculated for cancer of the lung, brain and liver. When power was taken into consideration, the results for liver and brain cancer were found to be consistent with an etiologic role for vinyl chloride. For lung cancer, the data were not consistent with an etiologic role, in that two studies with very high power yielded negative results.

Descriptors: vinyl chloride; occupational exposure;
statistical analysis; case survey; man; mortality

Section Heading Codes: 24152

651637 82000229393

Follow-Up Study on the Carcinogenicity of Vinyl Chloride and
Vinylidene Chloride in Rats and Mice: Tumor Incidence and
Mortality Subsequent to Exposure.Hong, C.B.; Winston, J.M.; Ihornburg, L.P.; Lee, C.C.;
Woods, J.S.Battelle Seattle Res. Ctr., 4000 N.E. 41st Street, Seattle,
WA 98105, USA

J. TOXICOL. ENVIRON. HEALTH, 7(6), pp. 909-924, 1981

Languages: English Summary Languages: English

DOC TYPE: Journal article-original research

24 .Toxicology Abstracts

Carcinogenic and other toxic effects on rats and mice were examined during a 12-mo period following exposure to vinyl chloride (VC) or vinylidene chloride (VDC). The results suggest that exposure to vinyl halides at dose levels lower than those that elicit a significant increase in cancer incidence during the lifetime of the animal may, nonetheless, increase the risk of early death or moribundity from toxic pre- or subcarcinogenic effects. At dose levels higher than those consistent with the physiological defense or repair capabilities of the cell, ultimate tumor incidence becomes proportionate to length of exposure and may reflect the number of carcinogenic events elicited during the exposure period.

Descriptors: vinyl chloride; ethylene dichloride; mortality
(cont. next page)

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tumorigenicity; rats; mice
Section Heading Codes: 24152carcinogenesis; carcinogens; epidemiology; man; tumours;
methodology
Section Heading Codes: 24222; 24152X

631626 82000170763

Cancer Mortality of a Group of Canadian Workers Exposed to Vinyl Chloride Monomer.

Theriault, G.; Allard, P.
Dept. Social & Preventive Med. Sch. Med., Laval Univ.,
Ste-Foy, Que., Canada, G1K 7P4
J. OCCUP. MED. 23(10), pp. 671-676, 1981
Languages: English Summary Languages: English
DOC TYPE: Journal article-original research

24 Toxicology Abstracts

The present study was undertaken to find out whether there was an excess of cancer mortality from causes other than angiosarcoma of the liver among a group of workers heavily exposed to vinyl chloride monomer (VCM). The mortality of 451 workers exposed to VCM for more than five years was compared with that of 870 workers from the same company who had not been exposed to VCM. The relative risk for digestive cancer was significantly higher than 1 in the exposed group. The standardized mortality ratio for digestive cancer was also higher than that of the general population.

Descriptors: vinyl chloride; man; occupational exposure;
tumors; epidemiology; mortality

Section Heading Codes: 24152

541049 4103-X4

Epidemiologic investigation of occupational carcinogenesis using a serially additive expected dose model.

Smith, A.H.; Waxweiler, R.J.; Tyroler, H.A.
(Dep. Community Health, Wellington Clin. Sch. Med.,
Wellington Hosp., Wellington 2, New Zealand)
Am J. Epidemiol. 112(6), 787-797, 1980
Languages: English Summary Languages: English
DOC TYPE: Journal article-original research

24 Toxicology Abstracts

A method using the cumulative dose concept has been developed which involves calculating the expected yearly exposure for each case from work histories of all noncases close to the case in year of birth and year of hire. The data required for use of the method include information concerning exposure to the chemicals being studied for each job in each calendar year of the study. Use of the method is illustrated with a study of angiosarcoma of the liver and vinyl chloride exposure in a polymerization plant. The value of the method lies in the wealth of information generated concerning the association between chemical exposures and cancer, including exposure level relationships, latency information, and the possibility that 2 chemicals might be acting independently or jointly. The serially additive expected dose model is likely to prove particularly useful in the analysis of data collected by occupational health surveillance systems, as well as retrospective studies of the type illustrated.

Descriptors: occupational exposure; occupational diseases;

521781

The role of dietary factors in the pathogenesis of primary carcinoma of the liver.

Role des facteurs alimentaires dans la genese du cancer primitif du foie.

Darnis, F.
(Hop. Saint-Antoine, 75012 Paris, France)
Gaz. Med. Fr. 87(22), 2863-2870, 1980
Languages: French Summary Languages: French, English
DOC TYPE: Journal article-original research

24 Toxicology Abstracts

There is an extraordinary disparity in the geographical distribution of primary carcinoma of the liver. This disease is 100 times more common in Senegal, Northern Mali, Mozambique and Southern Rhodesia than in eastern countries. This is not a racial or genetic phenomenon since black and white populations living in the USA show an equal incidence for this disease. One concept is therefore of fundamental importance: the presence in the human environment, in particular in the diet, of pollutants (mycotoxins, nitrosamines, halogenated ethylenes) which, with the exception of alcohol, are the chief hepatocarcinogens. Aflatoxins grow easily on many foodstuffs in hot and humid countries. A high dose of aflatoxin, in particular aflatoxin B1, results in acute liver atrophy. At very low but repeated doses, carcinoma of the liver is produced in many experimental animals and probably in man. Nitrosamines at high doses, e.g. dimethylnitrosamine, cause necrosis of the liver. At low and repeated doses for one year it causes in the rat a carcinoma of the liver in 95% of experimental animals. The chief risk comes from meats and fish treated with nitrites for the purpose of preservation. Nitrates present in many vegetables and sometimes in drinking water are also under study since nitrosamines may also be formed in the digestive tract in man from ingested nitrates. Of the halogenated ethylenes, vinyl chloride is known to induce carcinoma of the liver in man. It is found in the environment as a pollutant, e.g. as a propellant in aerosol sprays, whilst certain packagings are based upon polyvinylchloride.

Descriptors: aflatoxins; aflatoxin B1; mycotoxins;
nitrosamines; vinyl chloride; polyvinyl chloride; nitrates;
N-nitrosodimethylamine; food contamination; diets; role;
carcinogenesis; liver; man; pollutants; pollution; halogenated
ethylenes

Section Heading Codes: 24120; 24171X; 24200X; 24156X

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510535

Study of mortality in workers exposed to vinyl chloride.
Etude de la mortalité chez des travailleurs exposés au chlorure de vinyle.

Pierre, C. ; Tassignon, J.P.

(Med. Trav., Usine de la S.A. Solvay et Cie, 39500 Tavaux, France)

Arch. Mal. Prof. Med. Trav. Secur. Soc. 40(12), 1131-1145, 1979

Languages: English Summary Languages: French, English

DOC TYPE: Journal article-original research

24 .Toxicology Abstracts

Mortality in 1482 workers exposed to vinyl chloride at the Tavaux factory between 1953 and the end of 1976 was studied. The results showed an overall mortality less than that of the French population taking into account an adjustment for sex, age and the period during which the study was carried out. The number of cancer cases observed was quantitatively within normal limits. The relatively young age of the group studied (34 yr) and the small number of deaths does not allow a final conclusion to be made about the effects of vinyl chloride on the health of workers exposed to high quantities of this agent.

Descriptors: vinyl chloride; man; occupational exposure; mortality; studies; occupational diseases

Section Heading Codes: 24152

450979 80041250899 5603-X3

Health effects of vinyl chloride.

Tamburro, C.H.

(Univ. Louisville, Sch. Med., Dig. Dis. and Nutr. Sect., 511 South Floyd St., Room 535, MDR Build., Louisville, KY 40201, USA)

Tex. Rep. Biol. Med. 37(-), 126-144, 1978

Languages: English Summary Languages: English

DOC TYPE: Journal article-original research

24 .Toxicology Abstracts

Vinyl chloride is a basic chemical for plastics manufacturing and has been used as an anesthetic agent. Present clinical data in humans now demonstrate evidence of pre-cancer injury and cancer transformation of various types of cells in different organs of the body. Manifestations of pre-cancerous injury to organs other than the liver (such as the lung, heart, spleen, brain and lymphatic system) may also be occurring and require further investigation. Early detection of these pre-cancerous chemical injuries requires a prospective ongoing system of surveillance and the development of diagnostic methods which can identify specific causal agents in the presence of non-specific injury. Such a systematic approach has been developed and is now in operation. Its initial achievements appear to be the foundation for future success in controlling the health effects of industrial chemicals.

Descriptors: early; tumours; detection; symptoms; vinyl chloride; surveillance; occupational exposure; man

Section Heading Codes: 24152

450978 80041250898 6185-X3

Community risk assessment.

Downs, T.D.

(Dep. Biometry, Univ. Texas Health Sci. Cent. at Houston, Sch. Public Health, PO Box 21086, Houston, TX 77025, USA)

Tex. Rep. Biol. Med. 37(-), 118-122, 1978

Languages: English

DOC TYPE: Journal article-original research

24 .Toxicology Abstracts

A simplified account of a statistical method used to assess community risk from environmental carcinogens is given. The method is called the linear model or sometimes the one-hit model. The linear model is based on the assumption that the probability, or risk, of developing cancer from exposure to a relatively small amount of a carcinogenic agent is directly proportional to that amount. The linear model is illustrated with data on vinyl chloride inhalation in rats and subsequent development of liver angiosarcoma. These results are extrapolated to humans, and the findings thereof discussed.

Descriptors: carcinogens; environmental factors; risks; assessment; man

Section Heading Codes: 24240

277777 79091200760 10734-J3; 8171-X2

Mortality experience of workers in a vinyl chloride monomer production plant.

Buffler, P.A. ; Wood, S. ; Eifler, C. ; Suarez, L. ; Kilian, D.J. (Univ. Texas Sch. Public Health, PO Box 21086, Houston, TX 77025, USA)

J. Occup. Med. 21(3) 195-203, 1979

Languages: English Summary Languages: English

DOC TYPE: Journal article-original research

24 .Toxicology Abstracts; 10 .Oncology Abstracts

The evidence associating exposure to vinyl chloride with the risk of tumors at various sites, including lung cancer, is inconsistent. In 1976 a mortality follow-up study of 464 white males employed in a vinyl chloride monomer (VCM) production plant since 1948 was conducted. Eight of the 28 deaths observed were due to malignant neoplasms. No angiosarcomas or other liver tumors were observed. A statistically significant excess was noted for malignant neoplasms of the respiratory system. The effect of smoking, duration of exposure to VCM, level of exposure, and the combined effect of duration and level of exposure were analyzed separately. A 5-yr latency requirement was maintained for all analyses except for the smoking analysis. Levels of exposure to VCM prior to 1971 were estimated from monitoring data available for the period 1971-1975 by extrapolating the relative levels for job classifications backwards in time. When the minimum latency period of 5-yr restricted analysis to the mortality experience after 5 yr from date of initial exposure to VCM for the 314 employees satisfying this criterion, the excess of respiratory cancer was moderate but not significant. Both a longer duration and a higher level of exposure during the first 5 yr (cont. next page)

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following the date of initial exposure were associated with a statistically significant excess of respiratory cancer. The results suggest that a relationship exists between exposure to VCM and respiratory cancer.

Descriptors: vinyl chloride; man; occupational exposure; carcinogenesis; mortality; surveys; respiratory tract tumours relationship

Section Heading Codes: 24152; 10057; 10107X

252170 79061261376 4519-X2

Mortality study in VC

PVC workers of BASF-Ltd., Ludwigshafen-Am-Rhein. -
Mortalitätsstudie bei VC-- PVC-Arbeitern der BASF
Aktiengesellschaft, Ludwigshafen am Rhein.

Frentzel Beyme, R.; Schmitz, T.; Thiess, A.M.
(Arbeitsmed. und Gesundheitsschutz der BASF
Aktiengesellschaft, Ludwigshafen/Rhein, GFR)

Arbeitsmed. Sozialmed. Präventivmed. 13(10), 218-228, 1978

Languages: German Summary Languages: English, German

DOC TYPE: Journal article-original research

24 Toxicology Abstracts

The results of the prospective mortality study of 1,618 VC-PVC exposed persons are given. Proceedings and analysis were based on the usual international methods, which makes a comparison with other studies possible. As it was not possible to offer reliable details with regard to the degree of exposure, the mortality of the VC-cohort was investigated by considering VC-exposure periods of 5, 10, 15 yr and more than 15 yr, with a minimum observation period of 5, 10, 15 yr accordingly. The total VC-cohort was further sub-divided into groups comprising those who had been exposed before 1960 and those who had their first exposure between 1960 and the deadline of the study (31.12.75). The follow-up of all German employees was 95.5% successful. However in the case of the foreign workers, all exposed after 1960, the follow-up was only 60% successful. The study revealed the following results: angiosarcoma deaths could not be registered. Cirrhosis in the liver and myocardial infarctions were less than expected. The expected number of natural causes of death (ICD 0-796) was higher than the number of 61 observed cases. The unnatural causes of death (ICD 800-999) were nearly as frequently observed as expected. The following diseases were more frequently observed than expected: tuberculosis of the lung; malignant tumours of the colon and the stomach; hypertrophy of the prostate. They significantly exceeded the expectancy rate although these events only occurred in a few cases. The division of the cohort in groups with exposure beginning before or after 1960, showed after a minimum observation period of 5 or 10 hr resp., a higher observed than expected mortality rate for natural deaths if exposure started before 1960. The duration of exposure had no recognizable influence on an increased rate of mortality after long exposure periods. Observations of other studies were not confirmed that lung cancer, brain tumours and tumours of the liver were observed more frequently after VC-exposure, or that VC may be a specific risk to these tumours. The deviations from other

published risk-predilections could perhaps be due to a dose-response effect, as the VC exposure level within the BASF has always been comparatively low.

Descriptors: vinyl chloride; polyvinyl chloride;
occupational exposure; mortality; surveys; man
Section Heading Codes: 24152

233900 79041243912 3365-J3; 2478-X2

Pulmonary tumors induced in mice by vinyl chloride monomer.
Suzuki, Y.

(Environ. Sci. Lab., Mt. Sinai Sch. Med., Fifth Ave. and
100th St., New York, NY 10029, USA)

Environ. Res. 16(1-3), 285-301, 1978

Languages: English Summary Languages: English

DOC TYPE: Journal article-original research

10 Oncology Abstracts; 24 Toxicology Abstracts

Neoplastic effects of vinyl chloride were studied in lungs of 27 mice exposed to vinyl chloride monomer at 2500 and 6000 ppm for 5 and 6 months. Pulmonary tumors were observed in 26 of 27 experimental animals. By light microscopy, the tumors were multiple and arranged in either tubulo-papillary or adenomatous formations. Although occasional mitotic divisions and invaginations into the bronchiolar lumen were observed, no metastases were found. By electron microscopy, short microvilli, tight junctions between 2 adjacent cells, appearance of osmophilic lamellar bodies, large mitochondria of irregular shape, well-developed Golgi complexes, continuous or discontinuous basement membranes, occasional appearance of 'sequestration' and of crystalloids, and lack of both cilia and mucous secretory granules were observed as characteristic features of the neoplastic cells. Some of the cells were poorly differentiated and were equipped with poorly developed organoids, without formation of osmophilic lamellar bodies. The pulmonary tumors corresponded to 'alveologenic tumors or alveologenic cancer'. It is suggested that the neoplastic cells were transformed from type II alveolar epithelium via its hyperplastic form. It is concluded that mouse lung is an extremely sensitive indicator of the oncogenicity of vinyl chloride.

Descriptors: vinyl chloride; induction; lung tumours; mice;
carcinogenesis; lung

Section Heading Codes: 10012; 24152; 24154X

229986 79031305509 2462-X2

Perspectives in the investigation of health hazards in the chemical industry.

Selikoff, I.J.

(Mt. Sinai Sch. Med., City Univ. New York, Fifth Ave. and
100th Street, New York, NY 10029, USA)

Ecotoxicol. Environ. Safety 1(3), 387-397, 1977

Languages: English

DOC TYPE: Journal article-review

24 Toxicology Abstracts

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Rehn (1895) and contemporaries showed that human cancer could result from industrial chemical exposure, and laboratory studies implicated varied and numerous agents, yet until recently human experience had not demonstrated this to be a major problem. The question of whether experiences with vinyl chloride, bischloromethyl ether, chromates, etc. demonstrate that the prophesies were correct and is discussed under the following headings: (1) priorities - (a) exposure of large industrial populations; (b) community exposure; (c) suspect agents; (d) long use; (e) planned introduction of agents or widened distribution; (2) methods - (a) toxicological pharmacodynamics; (b) animal carcinogenicity; (c) evaluation of bacterial mutagenicity models; (d) epidemiological; (e) evaluation of teratogenicity observations; (3) multiple-factor interactions; (4) industry opportunities - (a) epidemiological; (b) environmental surveillance; (c) medical surveillance; (d) education; (e) long-term, low-level effects; (f) end product use; and (5) special perspectives - (a) current era has unique responsibilities; (b) industry-labour cooperation; (c) approaches to control and regulation; and (d) improvement of scientific communication.

Descriptors: chemicals; industries; health; hazards; man; review

Section Heading Codes: 24152

101084 78121201478 12511-J2; 7418-X1

Vinyl chloride disease.

Die Vinylchloridkrankheit.

Veltman, G.; Lange, C.-E.; Stein, G.

(Univ.-Hautklin., Bonn-Venusberg, D-5300 Bonn 1, GFR)

Hautarzt. 29(4), 177-182, 1978

Languages: German Summary Languages: English, German

DOC TYPE: Journal article-original research

24 Toxicology Abstracts; 10 Oncology Abstracts

Workers engaged in PVC-production, who are exposed long-term to the gaseous base vinyl chloride exhibit a complex pattern of effects. Changes of the skin, vascular and bone system, as well as thrombocytopenia, liver fibrosis with portal hypertension, disturbances of porphyrin metabolism and alterations in the CNS were observed. Moreover vinyl chloride is oncogenic and may cause angiosarcoma of the liver. By direct occupational medicine supervision, improvement of the production conditions and introduction of new processing techniques health risks at the place of work could be eliminated to a great extent.

Descriptors: vinyl chloride disease; occupational exposure; human; association; vinyl chloride; liver; cancer

Section Heading Codes: 24052; 10057

098705 78111304184 12799-J2; 9058-V11; 6958-X1

Benign and malignant liver neoplasms: some new etiologic associations.

Rudolph, R.H.

(Mason Clin., PO Box 900, Seattle, WA 98111, USA)

Postgrad. Med. 63(3), 56-62, 65, 1978

Languages: English Summary Languages: English

DOC TYPE: Journal article-review

10 Oncology Abstracts; 22 Virology Abstracts; 24

Toxicology Abstracts

Several agents have recently been implicated in the development of benign and malignant liver neoplasms. The development of benign adenomas in women taking oral contraceptives is not common. However, one third of those in whom such adenomas occur present with intraabdominal hemorrhage associated with substantial mortality. The primary care physician should be particularly alert to this possibility when considering the differential diagnosis of acute abdomen in a woman who is taking oral contraceptives. Hepatocellular carcinoma in patients taking androgenic-anabolic steroids likewise is a rare complication. It is, however, frequently fatal. It is important that androgens be used only when the benefit clearly warrants the risk. The initial management of patients with this complication involves simply withdrawal of the androgen preparation, rather than extensive surgery, chemotherapy, or radiation therapy. Studies linking serologic evidence of viral hepatitis with subsequent development of hepatoma strongly support the hypothesis that hepatitis B virus plays a causative role in primary liver cancer. If an effective immunization program against hepatitis B can be developed, it may also be effective in preventing this form of cancer, which is so prevalent in many parts of the world. The association between exposure to vinyl chloride and the development of angiosarcoma of the liver has been recognized recently, and occupational exposure standards have been strengthened. However, this serious occupational exposure hazard should have been predicted on the basis of animal toxicology studies. The fact that it was not emphasizes the need for a stricter policy of screening new materials for potential hazard prior to their widespread use in industry.

Descriptors: liver; tumour; benign; malignant; aetiology; review; hepatitis virus B

Section Heading Codes: 10179; 22115; 24100

027315 78051222517 2781-J2

Clinical studies of cancer etiology.

Li, F.P.

(35 Binney St., Boston, MA 02215, USA)

Cancer 40(1, suppl.), 445-447, 1977

Languages: English Summary Languages: English

DOC TYPE: Journal article-original research

10 Oncology Abstracts

Clues to causes of cancer in man can be identified through clinical observation of patients. Alert practitioners have, for example, recently discovered carcinogenic effects of occupational exposure to vinyl chloride and of diethylstilbestrol therapy during gestation. Clinical case studies have also clarified the role of host susceptibility in development of cancer. In most instances, validity of initial
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clinical observations was established by more detailed epidemiologic and laboratory studies. Clinicians can contribute to carcinogenesis studies by being alert to causes of cancer in their patients, and by referring exceptional observations to clinical epidemiologists and basic scientists for further study. Knowledge of risk factors can be applied to cancer prevention and early detection.

Descriptors: cancer; aetiology; role; carcinogenesis; clinical; studies

Section Heading Codes: 10056

expected in cancers of the breast and urinary organs among white females. Deficit mortality was observed in cirrhosis of liver among both male and female white employees.

Descriptors: polyvinyl chloride; human; mortality; carcinogenesis; occupational; exposure; cancer

Section Heading Codes: 24052; 10057

023621 78041300696 2016-J2

(Current aspects of primary liver cancer. I. Aetiopathogenesis).

Aspectos actuales del cancer primitivo de higado. (I). Etiopatogenia.

Herrerias, J.M. ; Jiminez, M. ; Garrido, M.
(Dep. Intern. Med., Univ. Hosp. Clin., Seville, Spain)
Rev. Esp. Enferm. Apar. Dig. 49(3), 449-456, 1977

Languages: Spanish

DOC TYPE: Journal article-review

10 .Oncology Abstracts

Aetiopathogenic aspects of primary liver cancer are reviewed with particular reference to geographical variations in incidence and age of onset, and to exposure to aflatoxin and other exogenous agents such as cicasine, Senecio alkaloids, polyvinyl chloride, 4-dimethylazobenzene, dimethylnirosamine, carbon tetrachloride, drugs such as Thorotrast and arsenic compounds. The relationship between primary liver cancer and sex, hormone factors, genetic factors and other diseases, especially liver conditions such as cirrhosis and hepatitis, are discussed.

Descriptors: liver; cancer; aetiology; pathology; review

Section Heading Codes: 10179

022183 78041218033 1736-J2; 1072-X1

Mortality among employees of PVC fabricators.

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A cross-sectional mortality study of 4341 deaths occurring among current and former employees of 17 PVC fabricators during 1964-1973 is presented. The objectives are: (1) to identify any angiosarcoma deaths among the employees of these fabricators, and (2) to examine the distribution of deaths by cause. No angiosarcoma deaths were found among the study group. Sex-race-cause-specific Proportionate Mortality Ratios (PMR's) were computed, using the corresponding US mortality as the standard. Among white employees, there appears to be an excess in total cancer mortality, particularly that of the digestive system. Observed deaths were found to exceed the