

the critical size range is in excess of 8-10 μ . Further work with the animal model will be necessary to determine whether short fibers below 5 μ in length are completely innocuous or only relatively so.

REFERENCES

- GARDNER, L. V. 1942. Chrysotile asbestos as an indicator of subtle differences in animal tissues. *Am. Rev. Tuberc.* 45: 762.
- VORWALD, A. J., T. M. DURKAN & P. C. PRATT. 1951. Experimental studies of asbestosis. *A.M.A. Arch. Ind. Hyg. Occ. Med.* 3: 1-43.
- HOLT, P. F., J. MILLS & D. K. YOUNG. 1964. The early effects of chrysotile asbestos dust on the rat lung. *J. Pathol. Bacteriol.* 87: 15-23.
- GROSS, P. & R. T. P. DE TREVILLE. 1967. Experimental asbestosis studies on the progressiveness of the pulmonary fibrosis caused by chrysotile dust. *Arch. Environ. Health* 15: 638-649.
- GROSS, P., R. T. P. DE TREVILLE, E. B. TOLKER, M. KASCHAK & M. A. BABYAK. 1967. Experimental asbestosis. The development of lung cancer in rats with pulmonary deposits of chrysotile asbestos dust. *Arch. Environ. Health* 15: 343-355.
- REEVES, A. C., H. E. PURO, R. G. SMITH & A. J. VORWALD. 1974. Experimental asbestos carcinogenesis. *Environ. Res.* 4: 496-511.
- WAGNER, J. C., G. BERRY, J. W. SKIDMORE & V. TIMBRELL. 1974. The effects of the inhalation of asbestos in rats. *Br. J. Cancer* 29: 251-269.
- DAVIS, J. M. G., S. T. BECKETT, R. E. BOLTON, P. COLLINGS & A. P. MIDDLETON. 1978. The importance of fibre mass and fibre number in the pathogenesis of asbestos related disease in rats. *Brit. J. Cancer* 37: 678-688.
- WAGNER, J. C. 1963. Asbestosis in experimental animals. *Br. J. Indust. Med.* 20: 1-12.
- HOLT, P. F., J. MILLS & D. K. YOUNG. 1965. Experimental asbestosis with four types of fibers. Importance of small particles. *Ann. N.Y. Acad. Sci.* 132: 87-97.
- BOTHAM, S. K. & P. F. HOLT. 1972. The effects of inhaled crocidolite from Transvaal and North West Cape mines on the lungs of rats and guinea-pigs. *Br. J. Exp. Pathol.* 53: 612-620.
- LYNCH, K. M., F. A. MCLIVER & J. R. CAIN. 1957. Pulmonary tumours in mice exposed to asbestos dust. *A.M.A. Arch. Ind. Health* 15: 207-214.
- WEHNER, A. P., R. H. BUSCH, R. J. OOLSON & D. E. CRAIG. 1975. Chronic inhalation of asbestos and cigarette smoke by hamsters. *Environ. Research* 10: 368-383.
- WEISTER, I. 1969. The Pathogenesis of Asbestosis. In *Pneumococcosis: Proceedings of the International Conference*. Johannesburg, 1969. H. Shapiro, Ed. Oxford University Press, 1970, pp. 117-119.
- DAVIS, J. M. G. 1970. Further observations on the ultrastructure and chemistry of formation of asbestos bodies. *Exp. Mol. Pathol.* 13: 346-352.
- DAVIS, J. M. G. & P. GROSS. 1972. Are ferruginous bodies an indication of atmospheric pollution by asbestos. In: *The biological effects of asbestos*. I.A.R.C. Scientific publication No. 8: 238-242.
- SMITH, W. E., D. D. HUBERT, L. MILLER, M. S. BADOULET & J. CHIRN. 1968. Tests for threshold levels of carcinogenicity of asbestos. In: *Biologische Wirkungen des Asbestos*. International Conference, Dresden. Deutsches Zentralinstitut für Arbeitsmedizin. Berlin. pp. 240-242 (1968).
- STANTON, M. F. & C. WRENCH. 1972. Mechanisms of Mesothelioma induction with Asbestos and Fibrous Glass. *J. Nat. Cancer Inst.* 48: 797-822.
- WAGNER, J. C., G. BERRY & V. TIMBRELL. 1973. Mesotheliomata in rats after inoculation with asbestos and other minerals. *Br. J. Cancer* 28: 173-185.
- SMITH, W. E., D. D. HUBERT & M. S. BADOULET. 1972. Biological differences in response to long and short asbestos fibres. *Am. Ind. Hyg. Assoc. J.* 33: A162.
- STANTON, M. F., M. LAYARD, A. TEGERIS, E. MILLER, M. MAY & E. KENT. 1977. Carcinogenicity of fibrous glass. *J. Nat. Cancer Inst.* 58: 587-603.

Appendix

NBC's MEET THE PRESS, Sunday, June 25, 1978

THE ENVIRONMENT: HOW CANCEROUS?

Produced by
BETTY COLE DUKERT

Guests:

Dr. IRVING J. SELIKOFF, Director, Environmental Sciences Laboratory, Mount Sinai School of Medicine
Dr. ARTHUR C. UPTON, Director, National Cancer Institute
Dr. PAUL KOTIN, Senior Vice President, Johns-Manville Corporation
Dr. SIDNEY M. WOLFE, Director, Health Research Group
Dr. DONALD KENNEDY, Commissioner, Food and Drug Administration
Mr. ANTHONY MAZZOCCHI, Vice President, Oil, Chemical & Atomic Workers' International Union

Moderator and Executive Producer:

BILL MONROE—NBC News

Panel:

LAWRENCE E. SPIVAK—NBC News
DANIEL GREENBERG—National Columbia
BARBARA YUNCKER—New York Post
ROBERT BAZELL—NBC News

MR. MONROE: MEET THE PRESS originates today from New York City, where the New York Academy of Sciences has just begun a week-long conference on environmental health hazards.

Each year, more Americans die of cancer than the year before. The expected death toll this year, almost 400,000. We have had warnings about cigarettes, saccharin, asbestos, about nitrites in bacon, even about hamburgers when they are fried, concern about cancer-causing agents in the air we breathe and the water we drink.

Our guests today are experts on various phases of the threat we face from environmental cancer.

MR. SPIVAK: Dr. Selikoff, according to reports, cancer has become the primary health concern of the American people, and the fear of cancer has taken on epidemic proportions. How justified do you consider this fear? Is there an epidemic?

DR. SELIKOFF: Well, if you consider that twenty percent of all Americans now living are going to die of cancer unless we can do something about it, I think that is a fairly justified fear.

MR. SPIVAK: Dr. Upton, do you consider that an epidemic?

DR. UPTON: I don't think that the incidence is epidemic in the usual sense, although it is common. There have been remarkable increases in certain forms of cancer, especially cancer of the lung and those forms of cancer associated with cigarette smoking. Ironically, the incidence of stomach cancer has come down remarkably in recent years. If we look at the overall incidence, there is some drift upward which cannot be attributed entirely to cigarettes, but I wouldn't say it has become epidemic.