NATIONAL FEDERATION OF FEDERAL EMPLOYEES
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Local_____

JAN 17, 1986

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Mr. Michael B. Cook
Director, Office of Drinking Water
U.S. Environmental Protection Agency
Washington, D.C. 20460

JUSTIFICATION FOR SEMINAR ON THE POSSIBLE
MUTAGENIC/ONCOGENIC EFFECTS OF SODIUM FLOURIDE

Dear Mr. Cook,

At our meeting of December 31, 1985, you indicated you might be persuaded to hold a seminar on the mutagenic/oncogenic effects of sodium fluoride if we could show significant errors/omissions in the support document for the RMCL for fluoride in drinking water. The attached information (summarized below) should suffice to raise enough questions about the support document that a reasonable person would conclude that the issues need to be reexamined.

Errors/Omissions in Health Effects Support Document on Mutagenicity and Oncogenicity

(1) The support document found 4 papers in the literature on the mutagenicity of fluoride while ignoring 21 articles that appear to support the position that fluoride is a mutagen.

(2) The support document ignored significant reports that appear to support the position that fluoride can cause cancer and enhance tumor growth.

(3) The support document criticizes an epidemiology study suggesting that fluoridation of drinking water supplies is responsible for 10,000 to 20,000 excess cancer deaths every year in the U.S. The reports used to justify the criticism do not even relate to the study in question.

(4) the support document failed to mention(and its authors are probably unaware) that major critics of the epidemiology study mentioned above have reversed themselves under oath in a number of recent court cases.

While we have only focused on mutagenicity and carcinogenicity, there are similar kinds of mistakes/omissions on teratogenicity, hypersensitivity, reproductive effects, kidneys, thyroid, immune system, teeth, bone, and enzymes. There are inaccuracies as well in fluoride intake, sources of fluoride and dose conversions. For the time being, however, we are concerned that the literature on mutagenicity and carcinogenicity be presented in an open forum where the facts can be ascertained and the appropriate conclusions drawn.

We would like to negotiate the format for the seminar. While the details need to be worked out, it seems imperative that the seminar include a mutually agreed upon panel of experts to evaluate the presentation. This would enable a concrete and binding conclusion to be drawn and actions taken as a result of these conclusions.

We look forward to hearing from you.

Sincerely,

Robert J. Carton, Ph. D.
President-Elect
NFFE Local 2050

ATTACHMENT

I. Articles on the mutagenic effects of fluoride that were not evaluated in the health effects support document.

Takeki Tsutsui, el al., "Sodium Fluoride-induced Morphological Neoplastic Transformation, Chromosome Aberrations, Sister Chromatid Exchanges, and Unsceduled DNA Synthesis in Culturted Syrian Hamster Embryo Cells", Cancer Research Volume 44, pp. 938-941 (1984).

S.I. Voroshilin, et al., "Cytogenetic Effect of Inorganic Fluorine Compounds on Human Animal Cells in Vivo and in Vitro," Genetika, Volume 9, No. 4, pp.115-120 (1973).

Danuta Jachimscak and Bogumila Skotarscak, "The Effect of Fluorine and Lead Ions on the Chromosomes of Human Lsucocytes in Vitro," Genetica Polonica, Volume 19, No. 3, pp. 353-357 (1978).

A.A. Aliev and D.A. Babaev, "Cytogenetic Activity of Vitamins in Bone Marrow Cells of Rat Femurs in Sodium Fluoride-induced Mutation Conditions". Tsitol. Genet, Volume , pp. 19-23 (1981).

A. A. Aliev, et al., "Effet of alpha-Tocopheral on the Level of Chromosome Aberrations Induced by Sodium Fluoride in Rat Femur Bone Marrow Cells," Izv. Akad. Nank Ax. SSR Ser. Biol Nank, Number 1, pp. 17-20 (1981).

V. Yu Akhundov, et al., "Effect of Combined and Separate Exogeneous Vitamin Administration on the Level of Chromosomal Aberratons INduced by Sodium Fluoride in rats in Subacute Experiments", Isv. Akad. Nauk Ax. SSR, Ser. Biol. Nauk, No. 4, pp-3-5 (1981).

Aly Mohamed and Me.E. Chandler, "Cytological Effects of Sodium Fluoride on Mice", Fluoride, Vol 15, pp. 110-118 (1982).

Weishan He, et al., "Effect of Sodium Fluoride and Fluoroacetamide on Sister Chromatid Exchanges and Chromosone Aberrations in Cultured Red Muntjac Cells", Huanjing Kexue Xuebao, Vol 3, pp. 94-100 (1983).

Takeki Tsutsui, et al., "Cytotoxicity, Chromosome Aberrations and Unscheduled DNA Synthesis in Cultured Human Diploid Fibroblasts Induced by Sodium Fluoride", Mutation Research, Volume 139, pp. 193-198 (1984).

A.H. Mohamed, et al., "Cytological Reactions Induced by Sodium Fluoride in Allium Copa Root-tip Chromosomes," Canadian Journal of Genetics and Cytology, Vol 8, pp. 241-244 (1966).

A. H. Mohamed, et al., "Cytological Effects on Hydrogen Fluoride on Tomato Chromosomes", Canadian Journal of Genetics and Cytology, Vol 8, pp. 575-583 (1966).

A. H. Mohamed, "Cytogenetic Effects of Hydrogen Fluoride Treatment in Tomato Plants", Journal of the Air Pollution Control Association, Vol 18, pp. 395-398 (1968).

A. H. Mohamed, "Chromosome Changes in Maize Induced by Fluorine Gas", Canadian Journal of Genetics and Cytology, Vol 12, pp. 614-620 (1970).

A. H. Mohamed, "Induced Recessive Lethals in Second Chromosomes in Drosophila Melanogaster by Hydrogen Fluoride", Proceedings of the Second Internnationalk Clean Air Congress of the International Union of Air Pollution Prevention Associations, 1970, p. 26.

R. A. Gerdes, et al., "The Effects of Atmospheric Hydrogen Fluoride upon Drosophila Melanogaster", Atmospheric Environ., Vol 5, pp. 113-122 (1971).

B. Mitchell and R. A. Gerdes, Mutagenic Effects of Sodium Fluoride and Stannous Fluoride on Drosophila Melanogaster", Fluoride, Vol 6, pp. 1113-117 (1973).

E. Vogel, "Strong Antimutagenic Effects of Fluoride on Mutation Induction by Treminon and 1-Phenyl-3,3-Dimethyltriazine in Drosophila Melanogaster", Mutation Research, Vol 20, pp. 339-352 (1973).

S. S. Bale and G.E. Hart, "Cytogenetic and Genetic Effects of Fluoride in Barley," I. Comparative Study of the Effects of Sodium Fluoride and Hydrofluoric Acid on Seedling Root Tips", Canadian Journal of Genetics and Cytology, Vol 15, pp. 703-712 (1973).

S. S. Bale and G. E. Hart, "Cytogenetic and Genetic Effects of Fluoride on Barley. II. Effects of Treatments of Seedling Coleoptiles with Sodium Fluoride", Canadian Journal of Genetics and Cytology, Vol 15, pp. 703-712 (1973).

A. A. Aliev, et al., "Cytogenetic Effect of Sodium Fluoride Treatment of Allium Fisulosum L. Seeds", Izv. Akad. Nauk Az. SSR, Ser. Biol. Nauk, No 4, pp. 3-5 (1982).

G. K. Rajamova, et al., "Features of the Modifying Capacity of Mutations in Aegilops Seed Produced Under Various Ecological Conditions", Izv. Akad. Nauk Az. SSR, Ser. Biol. Nauk, No 4, pp. 21-24 (1983).

II. Important articles showing that fluoride may cause cancer in animals and enhance tumor growth that were not evaluated.

Irwin Hershkowitz and Isabel Norton of St. Louis University, "Increased Incidence of Melanotic Tumors in Two Strains of Drosophila Melanogaster Following Treatment with Sodium Fluoride", Genetics, Vol 48, pp. 307-310 (1963).

Takeki Tsutsui, et al., "Sodium Fluoride-induced Morphological Neoplastic Transformation, Chromosome Aberrations, Sister Chromatid Exchanges, and Unscheduled DNA Synthesis in Cultured Syrian Hamster Embryo Cells", Cancer Research, Vol 44, pp. 938-941 (1984).

Paul Duffey, et al., "Giant Cells in Bone Marrow of Patients on High-Dose Fluoride Treatment", Annals of Internal Medicine, Vol 75, pp. 745-757 (1971).

Alfred Taylor and Nell Taylor, "Effect of Sodium Fluoride on Tumor Growth", Proceedings of the Society for Experimental Biology and Medicine, Vol 19, pp. 252-255 (1965).

III. An epidemiology study suggesting that fluoridation of drinking water supplies is responsible for 10,000 to 20,000 excess cancer deaths every year in the U.S. was rebutted with reports that mistakenly criticized an earlier study.

The study in question is cited in the health effects document as "Yiamouyiannis and Burke (1977)". Immediately following this citation, the report cites Oldham and Newell (1977) as a valid criticism of the Yiamouyiannis and Burke study. The Oldham and Newell study was, however, published one month before the Yiamouyiannis and Burke study and referred to their previous work published in 1975.

Strassburg and Greenland (1979) is also cited as a criticism. This work contained no reference to the Yiamouyiannis and Burke study of 1977.

IV. The report failed to mention that major critics of the epidemiology study of Yiamouyiannis and Burke have reversed themselves under oath in a number of court cases.

Sir Richard Doll agreed that fluoridated cities in the U.S. have higher cancer death rates than non-fluoridated cities. McColl vs Strathclyde Regional Council, Scottish High Court in Edinburgh (1981).

Professor David Newell admitted that his own study showed an absolute increase of 3.7 excess cancer death per 100,000 population in fluoridated areas vs. nonfluoridated areas. He also admitted that he was wrong when he suggested that the Yiamouyiannis and Burke study did not make the proper adjustments for age, race, and sex as is so often claimed. (ibid.)

Dr. Leo Kinlen admitted that his own study showed that the cancer incidence at sites he felt would most likely be affected by fluoridation were 5% higher in the fluoridated areas he examined than in the non-fluoridated areas. Paul W. Aitkenhead vs Borough of West View No. GD4585-78, Common Pleas of Allegheny County, Pennsylvania (1978).