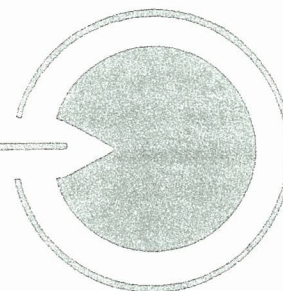


BIO-PROBE

NEWSLETTER



Volume 8

March 1992

Issue 2

MEDICAL SCIENTISTS REPORT HARMFUL EFFECTS TO DENTAL AMALGAM!

At the 1992 Annual Meeting of the Society of Toxicology, held in Seattle on 24 February, medical scientists reported five studies demonstrating adverse health effects of mercury exposure from dental amalgam fillings. These findings are so important that the abstracts of their presentations, as published in *The Toxicologist*, Vol. 12, No. 1, February 1992 are herein repeated in their entirety:

ABSTRACT #242: TOXICITY ASSESSMENT OF MERCURY VAPOR FROM DENTAL AMALGAMS: INTRODUCTION. WD Galloway and PL Goering. Center for Devices and Radiological Health. Food and Drug Administration. Rockville, MD.

In terms of the number of exposed individuals, the most prevalent source of deliberate mercury (Hg) exposure is almost certainly dental amalgam. Dental amalgam releases mercury vapor, which is absorbed by the lung and distributed systemically, concentrating in brain, kidney and fetal tissue. Implications of this Hg exposure are unclear, and recent Government panels have concluded that no scientific studies definitely link amalgam Hg to human disease states. However, these panels emphasize that more research is required to characterize adequately the risk of amalgam Hg exposure. This symposium will present recent research assessing the toxicity of low level, chronic Hg vapor exposure, with special emphasis on Hg exposure from dental amalgam. Since inhalation exposure to Hg vapor from any source can be expected to produce identical effects, we will broaden our consideration of this issue to consider both laboratory animal and epidemiologic studies of chronic, low-level Hg vapor exposure. The speakers will provide background information on Hg vapor toxicity, toxicokinetics, and critical target organs; present recent animal and human studies on amalgam Hg distribution and associated cell injury; report recent animal studies examining the developmental effects of prenatal exposures to Hg vapor; and present epidemiological evidence or reproductive toxicity among dental assistants occupationally exposed to amalgam Hg.

TABLE OF CONTENTS

<i>Toxicity assessment of mercury vapor from dental amalgams: Introduction. Galloway & Goering.....</i>	1
<i>Overview of mercury vapor toxicity, toxicokinetics and critical target organs. TW Clarkson.....</i>	1
<i>Mercury from amalgam tooth fillings: its tissue distribution and effects on cell function. Lorscheider</i>	2
<i>Prenatal exposure to mercury vapor: Effects on brain development. Berlin et al. & Dencker et al.....</i>	2
<i>Reduced fertility among dental assistants with occupational exposure to mercury. Rowland et al.</i>	2
<i>Dramatic Events In Germany.....</i>	2
<i>Victory in Washington State.....</i>	3
<i>Informed consent passes California Senate.....</i>	3
<i>N-acetyl-L-cysteine (NAC).....</i>	4
<i>Urine Hg mobilization/challenge test.....</i>	5
<i>FORUM; IAOMT Meeting.....</i>	8

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Subscription price is \$65.00 per year.

ABSTRACT #243: OVERVIEW OF MERCURY VAPOR TOXICITY, TOXICOKINETICS AND CRITICAL TARGET ORGANS. TW Clarkson. University of Rochester School of Medicine. Rochester, NY.

The toxicology of inhaled mercury will be reviewed with special emphasis on humans. Mercury vapor is a monatomic gas that is soluble in organic solvents. Thus it rapidly penetrates cell membranes and crosses important diffusion barriers in the body such as the blood-brain barrier and the placenta. Once inside the cell, it is oxidized to divalent inorganic mercury. Evidence will be presented that the catalase-hydrogen peroxide pathway is responsible for oxidation of mercury vapor. It is believed that divalent inorganic mercury is the proximate toxic species.

Severe signs and symptoms of human poisoning have been known for centuries. Today we are concerned with more subtle damage to the brain, the kidneys and the immune system. Effects on the immune system may be