

Visit Report

Date: March 22, 1971
Location: Institute of Occupational Medicine
(Tyoterveykslaitos)
Haartmaninkatu 1
Helsinki, 29, Finland
Persons Met: Sven Hernberg, M. D., Director of Research Office
J. Nikannen
Visit By: J. F. Cole
Report By: J. F. Cole
SUBJECT: ALA-dehydrase

The purpose of the visit was to discuss Hernberg's current work in measuring erythrocytic ALA-dehydrase activity in various populations exposed to lead. His publications dealing with this subject (Lancet I (1970) 63-64; Archives of Environmental Health 21 (1970) 140-145) have produced a furor in the U. S. since they have shown no threshold for this effect of lead.

Actually, Hernberg seemed unaware of the use to which various "environmentalist" groups are putting his findings. He did mention, however, that he receives frequent correspondence from the Sierra Club. He was critical of the chapter on lead in the recently published Doomsday Book. He stated that he does not believe that the effect of lead on erythrocytic ALA-d is harmful to health. Also, he does not believe that current levels of lead in the atmosphere are harmful to health.

Hernberg, in addition to his work with ALA-d, is participating in an OECD study on air pollution. Several sites in Finland have been chosen as "clean" areas. He is monitoring the population of these areas for lead. At present, after about 60 determinations, he has found that the mean blood-lead concentration is approximately 9.4 µg/100 Gm. blood. Obviously, this is a surprisingly low level and is contrary to what we would expect from the 7-Cities Study data. However, the lead in food intake has not been measured in the population. Since he seemed to have a disproportionate number of low blood-lead values in data from urban and suburban Helsinki residents, it may be that his method (atomic absorption) is giving consistently low results or the food-lead intake of the Finnish population is low. I offered to attempt to set up a cross check on samples with ASARCO's lab, which he accepted. Also, he agreed to attempt to characterize the food-lead intake. Air lead concentrations have not been determined.

Hernberg is also conducting an experiment to determine the rate of nerve conduction in occupationally exposed persons. Nerve conduction tests on the more sensitive "slower" nerves will be made on pre-employment examination with subsequent testing on day 2, 4, 6, then weekly for 3 months and biweekly for the 4th month. This exposure, in a battery plant, has consistently produced blood leads of 50 $\mu\text{g}/100\text{ Gm}$. A similar regimen has shown a diminution of ALA-d activity after only two days exposure,

I toured the facility and was most impressed. It consists of laboratory facilities and a small hospital. It appeared to be one of the best, if not the best, occupational health institute I have seen. The analytical facilities do seem somewhat overtaxed, however. We definitely should consider this institute for future epidemiological studies. Also, if the occasion demands, we might consider asking Hernberg to testify in person in Europe or in the U. S. on his ALA-d work. I don't think that his interpretation would be to the liking of the Sierra Club, et al. This latter point is only a ~~thought~~ ^{thought} which should be given serious consideration only if the ALA-d matter becomes more critical.

cg:

cc J. L. Kimberley
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J. C. Calandra
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