

MEMORANDUM

TO: Leslie Klevay, M.D. and Dr. Carl Smith

FROM: Sidney Lerner, M.D.

SUBJECT: Proposed Clinical Investigation

DATE: October 30, 1967

Attached is a copy of the file presented to me by Dr. Kehoe for a proposed clinical investigation involving the use by humans of a hair dye containing lead acetate. He has submitted this for review by the committee on ethics. Because of a number of circumstances, the progress of the project has been delayed. At this point Dr. Kehoe would appreciate greatly any expedition that maybe feasible. I would like to request that you review the material and prepare written comments, questions, etc. within the next week. It is further suggested that we each send copies of these comments to each of the other two members of the committee. After this has been circulated and we have had a chance to prepare our own comments and review that of the other members, I will schedule a time for us to meet and discuss the proposal. If at all possible, I would hope to be able to schedule this meeting for no longer than two weeks from today.

Sidney Lerner, M.D.

SL/md
attached
cc Robert A. Kehoe, M.D.

KE 0013157

Date: October 4, 1967

From: (Principal Investigators) Emil A. Pfitzer, Sc.D.; Elmore A. Kindel, Jr., M.D.
(Consultant) Robert A. Kehoe, M.D.

Subject: POTENTIAL HAZARD IN USE OF LEAD-CONTAINING HAIR DYES

Purpose of Study: Determination of the extent, if any, of the percutaneous absorption (scalp) of lead acetate in the formulation of certain hair dyes now in use. As a side-issue, involving the likelihood and extent of the ingestion of lead in the formulation of the cosmetic preparation, each subject will be investigated from the aspect of his alimentary output of lead during the period of experimentation within which this possibility exists.

I. New Procedures to be Employed

Only those procedures will be employed which have been found to be pertinent, through prolonged investigation of the metabolism of lead in man. Nothing new is contemplated.

II. Significance of Investigation in Relation to Human Health

Several formulations of hair dyes containing lead acetate as the essential coloring agent are available in the United States at present, and are in comparatively wide use within a selective clientele. Similar preparations have been in use in this and other countries for many years, while some preparation or procedure involving lead has been employed for this purpose for centuries. Certain inquiries have been made as to any deleterious effects that may have been sustained by the users of these products in the U.S.A., but the results have not been entirely convincing to federal authorities (Food and Drug Administration). There is little reason to believe that water-soluble salts of lead can be absorbed through the unabraded skin of man in hygienically significant quantities (1) but this question

(1) Tepper, L. B.: Symposium on Environmental Lead Contamination. U.S. Public Health Service Publication No. 1440, March 1966.

has not been answered, with quantitative precision, in relation to a wide variety of compounds. There is no method of establishing the facts in this manner for man, except through detailed observation of human subjects or patients under treatment. (For a number of good reasons, it is difficult to obtain satisfactory information in this instance through observations made under occupational conditions, although the best available, but non-quantitative, evidence stems from occupational sources and from the once fairly common experience of physicians in the use of lead acetate in the treatment of ivy poisoning.)

III. Previous Work in this Area

No experiments with animals have been carried out, preliminary to this project, for the reason that such experiments, while capable of adding certain useful items of information, cannot answer the basic question at issue. (There have been, of course, many experiments with animals in relation to the percutaneous absorption of inorganic compounds of lead. Such experiments indicate, as does professional experience, that water-soluble compounds of lead penetrate the unbroken skin of animals as well as man only slightly if at all. No satisfactory quantitative information is available to relate the rate of such absorption, if any, to the potential hazard of such absorption over the period of many years.)

IV. Potential Hazards

a. No hazard to the health, or well-being of the human subjects is involved in the conduct of the experiments as designed. The problem will be that of detecting and measuring (indirectly but essentially in a quantitative manner) whatever slight percutaneous absorption may occur over a brief period of time. This offers no threat of any kind to the subjects. It is not impossible, of course, for one or more of these subjects to ingest some quantity of the preparation which is to be applied upon his hair, either deliberately or through carelessness. It is highly improbable that any risk of lead poisoning would be incurred in this manner.

b. The experiment would not be justified (at least, in our view, at our

hands) if it were hazardous. The hazard sustained by the informed user of this product is his own affair, up to a point, but it would not be up to a medical investigator to subject other men to an expected hazard in order to satisfy his curiosity as to the outcome in a cosmetic issue of this type.

c. The subjects are to be under the supervision of clinicians in the Laboratory (who have no stake in the experimental project other than to provide experienced and critical surveillance of the subjects), through preliminary (and previous) medical examinations, including specific tests. (See attached protocol.)

V. Method of Obtaining the Informed Consent of Subjects

The subjects are members of the technical staff of the Laboratory who are familiar with the general type of such investigations. In addition, each of them has been informed of the questions at issue and of the hypothetical hazard involved in the use of the product under investigation, either by a normal consumer, or by an experimental subject. A nominal fee for a service that involves inconvenience has been offered not as an inducement but as an appropriate reward.

Use by Humans of Hair Dye Containing Lead Acetate

-Protocol-

Ten human volunteers (eight men and two women) will use a hair dye which contains lead acetate. The formulation of the hair dye and the instructions for its use are presented as an appendix to this protocol.

Each volunteer will be given instructions and information regarding the purpose of the experiment, as well as the procedures to be followed, including the use of hair sprays, shampoos, etcetera. The volunteers will report to the clinic each week for clinical observations for the condition of their scalp and hair. At the time of the visit to the clinic samples of blood and urine will be obtained for the analysis of their lead content. The sequence of clinic visits will be as indicated below.

<u>Clinic Visit</u>	<u>Week of Experiment</u>
No. 1	No. 1 Pre-use period
2	2 " "
3	3 Period of use
4	4 " "
5	5 " "
6	6 " "
7	8 Post-use period
8	10 " "