

For Information Only - Not for Publication

Kettering Laboratory
University of Cincinnati

THE PROJECT ON CARCINOGENICITY
PROPOSED EPIDEMIOLOGICAL STUDIES

Progress Report
for
The Subcommittee on Carcinogenicity
of the
API Medical Advisory Committee
April 23, 1950
Revision - May 15, 1950

Detailed Clinical Record

(To be completed in duplicate)
(One copy to be retained by the Medical Director)

I. Identification Data

- A. Code Number - All identifying data (Name-Address)
to be retained in the office of the
Medical Director.
- B. Age (Year born)
- C. Sex
- D. Race
- E. Marital Status
- F. Employment Status

II. Clinical Data

A. Dates

- 1. First Symptom
- 2. First Visit to Physician
- 3. First Diagnosis
- 4. First Treatment or Hospitalization
- 5. Death

- B. Clinical and Pathologic Diagnosis - List of tumors
to be reported which will be placed on the reverse
of record. This list is not exhaustive but comprises
the great majority of terms usually used. When there
is doubt concerning the malignant nature of a tumor,
it should be reported.

Carcinoma
Sarcoma
Epithelioma
Endothelioma } and any term of which one
of these words is a part.

Acanthoma	Meningioma
Astrocytoma	Myeloma
Brain Tumors	Medulloblastoma
Chorioma	Mesothelioma.
Chloroma	Mixed Tumor
Cholesteatoma	Neurocytoma
Embryoma	Oligodendroglioma
Ependymoma	Pinealoma
Ganglioneuroma	Syncytioma
Glioma	Seminoma
Granulosa Cell Tumor (Ovary)	Sympathoblastoma
Hypernephroma	Spongioblastoma
Hodgkin's Disease	Teratoma
Leukemia	Thymoma
Lymphoma	Paget's Disease (Breast)
Lymphosarcoma	Wilms' Tumor (Kidney)
Linitis Plastica (Stomach)	Ewing's Tumor (Bone)
Melanoma	Grawitz' Tumor (Kidney)

C. Primary Site and Stage

D. Treatment Advised and Received

E. Complications - Metastatic Sites

III. Unusual Exposure to Possible Carcinogens - Including estimates
of Degree, Type and Length of Time (As elicited by the Physician)
List which will be placed on the reverse of the record.

A. Physical Agents

1. Trauma
2. Radiant Heat
3. Solar Rays
4. Ultraviolet Rays
5. Radioactive Substances or Roentgen Rays

B. Inorganic Substances

1. Arsenic
2. Chromates

C. Organic Substances

1. Aromatic Amines
 2. Tar or Pitch
 3. Soot
 4. Creosote and Anthracene Oils
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AMERICAN PETROLEUM INSTITUTE

SUBCOMMITTEE ON CARCINOGENICITY

Minutes of Meeting
April 23, 1950
Hotel Sherman
Chicago, Illinois

Members Present

McIver Woody (Chairman)
Marshall Clinton
T. M. Frank
A. E. Hoag
J. P. Holt (Rep. by R. E. Eckardt)
T. J. Kelly
J. W. Long
M. N. Newquist
Chas. A. Swan

Associates Present

L. O. Crockett
Allan E. Dooley
R. W. Faulk
R. M. Landon
H. P. Lankelma
K. G. Mackenzie (Rep.
by H. R. Warrick)
R. M. Shepardson

Members and Associates of Medical Advisory Committee

W. O. Armstrong
V. C. Baird
F. F. Boys
Kieffer Davis
E. K. Linder
E. P. Luongo
B. B. Reeve
E. R. Ware

E. W. Adams
R. D. Bent
R. C. Cole
T. E. DeVilliers
L. M. Henderson
C. A. Neilson
F. M. Watkins

Guests

N. W. Bolyard - Standard Oil Co. (Ind)
Philip Drinker - Harvard School of Public Health
J. W. Hammond - Humble Oil and Refining Co.
Howard Hansen - Esso Standard Oil Co.
A. W. Horton - University of Cincinnati
W. C. Hueper - National Cancer Institute, Bethesda. Md.
R. A. Kehoe - University of Cincinnati
R. C. Page - Standard Oil Co. (N. J.)
J. J. Phair - University of Cincinnati
H. G. S. van Raalte - Shell Oil Co., Curacao, N. Ant.
W. E. Smith - New York University
D. V. Stroop - American Petroleum Institute
P. M. Waddill - Phillips Petroleum Co.

Total in attendance - 44

Members Absent

L. E. Curtis
W. R. Levis

Associates Absent

L. C. Beard, Jr.
H. G. M. Fischer

The minutes of the November 10, 1949 meeting were approved.

Dr. A. W. Horton presented a progress report, copies of which had been sent to all members and associates on April 11. This report was supplemented by a series of lantern slides showing potencies of some of the oils which have been tested. With respect to the analytical phases, Dr. Horton stated that many compounds had been isolated but very few had been identified as yet. Perylene, 4-methyl pyrene and chrysene have been definitely identified as constituents of high-boiling catalytically cracked oils.

Dr. Horton described the data which was to be submitted for publication in "Cancer Research". The potency curves of oils 8 and 9 (see Table I of Dr. Horton's report) would be included as being typical examples of the oils being studied.

In the discussion which followed, many of the members and associates voiced a request that a complete and detailed report be prepared by Dr. Horton. It was pointed out that such a report would be of particular benefit to new members and associates.

Dr. Horton's report was accepted and approved.

Mr. R. M. Shepardson described the work of his company on the development of a quick laboratory test for measuring the potential carcinogenicity of petroleum products. As a numerical expression of potential carcinogenicity, the number of days required for 50 per cent of the mice to develop tumors after discarding all mice which had died

without tumors, has been tentatively chosen. Of 64 samples tested to date, a satisfactory correlation has been found between the biological tests and the ultra-violet absorption measured at 360 mu on the portion of the sample separated by distillation and boiling between 650° and 950° F., when correcting for difference in viscosity, mid-boiling point and concentration of the 650-950° F. material. This study is being continued on a larger number of samples.

The subcommittee expressed its thanks to Mr. Shepardson for his presentation.

Dr. R. E. Eckardt reported on some of the work* being done at Memorial Hospital. Cancers have been produced in two monkeys out of six who had been painted with a high-boiling oil twice a week for about five years. This is the first time that skin cancers have been produced experimentally in monkeys.

Dr. Eckardt reporting on washing experiments said that results to date indicate that washing offers some protection but not absolute protection. With groups of 30 mice, application of the oil and washing after five minutes resulted in a reduction in the number of tumors and no cancers after one year. Washing the mice one hour after application produced tumors in four mice and cancer in one mouse of the group of thirty. Washing the mice six hours after application resulted in the development of cancer in three mice.

In a group of sixty mice which were painted with only one application of a high-boiling oil, tumors were produced in two mice

* See attached copy of paper "Experimental Analysis of the Carcinogenic Activity of Certain Petroleum Products" for additional information on this work.

and cancers in two additional mice. The first tumor appeared after 92 days and the first cancer after 274 days. No tumors or cancers appeared in a control group on 100 mice.

This subcommittee expressed its thanks to Dr. Eckardt for his presentation.

Dr. J. J. Phair presented a progress report on the epidemiological study which he plans to get under way about July 1, 1950. Dr. Phair distributed mimeographed copies of his report. During the discussion it was brought out that, to date, there have been no cases of skin cancer in which the employee has claimed that exposure to these high-boiling oils was the cause.

Dr. Phair's report was accepted and approved with the understanding that the word "approved" would be changed to "needed" where it fits the context of the report.

Dr. H. G. S. van Raalte told about a fishing village on the island of St. Martin where the inhabitants, all of Danish ancestry, can trace their ancestry back about 200 years on the island. He stated that most of the men develop skin cancers by the time they reach age 40. Most work at fishing and handle tarred nets and tackle. A few who have worked in the refinery or at Aruba apparently have not had skin cancers.

Dr. W. C. Hueper (National Cancer Institute) said that he had talked to a nurse in an asphalt shingle plant in the western part of the United States and that the nurse had reported cases of cancer on the dorsum of the hands. Dr. Hueper said that a petroleum asphalt

was being used and that it would be well to keep an eye on this material with respect to both producers and consumers.

The subcommittee recommended to the Medical Advisory Committee that it should approve:

1. Publication of the report as described by Dr. Horton in his letter of April 7, 1950 to D. V. Stroop.
2. The proposed epidemiological study as described by Dr. Phair.

Allan E. Dooley
Secretary

McIver Woody, M.D.
Chairman