

PAUL REZNIKOFF, M. D.
525 EAST 68 STREET
NEW YORK

file or
M.H. + S.
16-5
Accidents
&
Accidents
Preventions

file of Johnson case
1502
R

721372

AGENT 4-8000

March 22, 1945

Colonel Stafford Warren
Box E
Knoxville, Tenn.

Dear Colonel Warren:

I wrote you on January 12, 1945 that I would let you know [redacted] reaction to my suggestion about causal relationship in her husband's case. I have been informed by a Mrs. Helen Robinson of the firm of Lord, Day and Lord that they have been retained by [redacted] and that Lieut. Colonel Lansdale discussed the problem with her. You no doubt are aware of the fact but I thought I would write you in case you have not been notified about the state of affairs.

Sincerely yours,

Paul Reznikoff

Paul Reznikoff, M.D.

PR;RS

3/26

REPOSITORY Oak Ridge Oper.
COLLECTION Records Holding area
BOX No. A-18-4 Bldg. 2714-H
FOLDER Med., Health & Safety 16-5
& accident prevention accidents

115602b

(COPY)

E. I. du Pont de Nemours & Company

LABORATORY REPORT

NAME	CRAFT		Area Supv.
URINE:	Date: 7-1-44	9-23-44	9-25-44
Albumin	0	v.f. tr.	
Sugar	0	0	
Reaction	acid	ac.	
S. G.	1.030	1.016	
Epithelium	occ.	occ.	
W.R.C. per H.P.F.	occ.	occ.	
R.B.C. per H.P.F.			
Casts			
	(R.E.R.)		
BLOOD:	14.5 gm.	11.5	8.5
Hemoglobin Grams	94%	74%	54%
Hemoglobin Percent	4,720,000	3.41	3.02
Red Cells	8,650	87,000	93,700
White Cells	(161)	(3)	3
Total Polys	154 51.3%		
Segmented			
Stab			
Metamyelocytes	7 2.3%		
Myelocytes		83%	
Myeloblasts			
Lymphocytes	134 44.6%	(251) 46 Imm.L.	(199 - 1 →)
Mononuclears			(98 Imm. L. (66.3%))
Eosinophiles	3 1%	15.3%	32.6%
Basophiles	2 .6%		
Platelette			48,000
Fragility			Hemolysis begins at .38%
			Complete .3%
	(R.E.R.)		
Kahn:			
Blood Sugar			
Blood Urea N.			
July 3, 1944	Kahn Negative		
SEDIMENTATION:			
5 minutes			
10 minutes			
15 minutes			
30 minutes			
45 minutes			
60 minutes			
SMEAR EXAM.:			
Gonococcus			
Vincent's			
SPUTUM:			
Tubercle B.			
Stool	1156028	+ guaiac	
		for blood	

No reticulocytes noted. RBC - tendency towards microcytes, moderate hypochromia, st. polychromasia

(COPY)

CLINTON LABORATORIES

Name: [REDACTED]

No. 149

<u>Date</u>	<u>Hg</u>	<u>RBC</u>	<u>WBC</u>	<u>Plat</u>	<u>HN</u>	<u>No.N</u>	<u>HL</u>	<u>No.L</u>	<u>Mn</u>	<u>EOS</u>	<u>BAS</u>	<u>Remarks</u>
9/28/41	15.5	460	6100		61	3721	33	2013	6			Rbc appears normal - 500
10/27/43			6500		58	3770	38	2470	4			" " " 300
11/24/43	14.3	461	7300		57	4161	38	2774	4	1		" " " 300
12/30/43			8400		59	4956	36	3024	5	1		" " " 300
1/21/44	15.1	476	8500		68	5780	25	2125	6	1		Red cells appear normal - 300
2/28/44			11800		74	8732	23	2714	3			" " " 300
3/4/44	13.5	439	7500		58	4350	33	2475	8	1		Rbc appears normal - 300
4/14/44			9500		64	6080	33	3135	3			" " " 300
4/29/44	13.3	410	10700		72	7704	22	2354	4	2		" " " 300

1156029

(C O P Y)

CLINTON LABORATORIES

Name: ██████████ No. 149

<u>Date</u>	<u>Hg</u>	<u>RBC</u>	<u>WBC</u>	<u>Plat</u>	<u>%N</u>	<u>No.N</u>	<u>%L</u>	<u>No.L</u>	<u>Mn</u>	<u>EOS</u>	<u>BAS</u>	<u>Remarks</u>
9/28/44	15.5	460	6100		61	3721	33	2013	6			Rbc appears normal 500
10/27/43			6500		58	3770	38	2470	4			" " " 300
11/24/43	14.3	461	7300		57	4161	38	2774	4	1		" " " 300
12/30/43			8400		59	4956	36	3024	5	1		" " " 300
1/21/44	15.1	476	8500		68	5780	26	2125	6	1		Red cells appear normal 300
2/28/44			11800		74	8732	23	2714	3			" " " 300
3/4/44	13.5	439	7500		58	4350	33	2475	8	1		Rbc appears normal 300
4/14/44			9500		64	6080	33	3135	3			" " " 300
4/29/44	13.3	410	10700		72	7704	22	2354	4	2		" " " 300

(C O P Y)

1156030

HISTORY

Hosp. No. _____

Date 9/23/44

Name _____

Room or Ward No. 345 Bed B Doctor Saward

Age 37

Sex M

S. M. W. D. Race _____

Occupation _____

Diagnosis—Working Acute lymphatic leukemia

Final _____

Complications _____

Came for the relief of Night sweats and fatigue

Family history _____

No familial disease.

Personal history As a child had pneumonia in _____ at age _____

California for health, but no definite illness at time. In 1927 had a short

breakdown". Tonsillectomy in 1928. Once told he had a heart murmur. However, he considered himself as well and strong and played football, etc.

Present illness—Onset and history Toward the end of July, 1944, he noticed profuse sweating at

night which he was inclined to attribute to the weather. Soon these became nightly

and accompanied by fatigue during the day. Towards the middle of August, he was

distressed after eating the evening meal. He would feel full soon after starting to

eat. Complained of "gas" and a dull pain in left epigastrium. He did not lose

Subjective symptoms weight, however, and was unaware of a fever, if he had one. No

vomiting or diarrhea. Two weeks ago noticed bleeding from gums. No bleeding

elsewhere.

1156031

PHYSICAL EXAMINATION

Hospital No. _____

Date _____

Name _____ Room or Ward No. 345 Bed B Physician Saward

General Appearance Pallid, chronically ill

Weight--Normal _____ Present 168 3/4 Height _____ T. _____ P. _____ R. _____

Nutrition Fair B.P. 130/80

Physical Findings

(In this examination the following must be covered: Head, Neck, Chest, Heart and Blood vessels, Abdomen, Genito-Urinary Organs, Bones and Joints, Neuro-Muscular Systems, Skin and Lymph Glands.)

Skin shows no lesion. Appears sallow

Eyes ext. normal. Pupils react normally to light. Fundi are normal

Gums hypertrophic, tongue and pharynx neg.

A few small cervical glands palpable. No generalized adenopathy. Thyroid neg.

Lungs clear. Heart not enlarged. Sds. of good quality. Grdly systolic at apex

Abdomen soft. Spleen 4 fb below costal margin. No other mass.

Ext. neg. No edema

KJ equal and active.

Imp. Acute lymphatic leukemia

Signed (s) E. Saward

1156032

Declaration of Secrecy "A"
Designed for Execution by all Physicists, Chemists,
and other Employees of Similar Professional or
Scientific Caliber

Physician Consultant.

In consideration of the vital interest which the United States of America has in the successful and expeditious completion of the work being carried on here at by the Manhattan District.

I hereby state, without mental reservation, that I bear true faith and allegiance exclusively to the United States of America, that I have in the past and will in the future secure to the Government of the United States of America the sole benefit of any developments here made, to the exclusion of any other country, company, party, organization, or person, whomsoever. Upon the truth of this statement I stake my personal and scientific reputation.

Recognizing the importance of safeguarding all matters pertaining to this and to related work, I state that no printed matter, drawings, memoranda, notes, pieces of equipment, or any other records or materials of any kind whatsoever have been or will be taken or utilized by me for other than official purposes - and then only in accordance with the established rules, from the Manhattan District, or from any office, shop, or laboratory connected or associated therewith.

I further state that any and all knowledge of the work or activity of the Manhattan District or ~~thereabouts~~ ~~any other work~~ which has been or will be acquired by me, has been and will be considered as classified information and has not been or will not be used for discussion, correspondence, communication or reference with any person or persons not authorized to receive such information.

That I understand should I either intentionally, or through gross negligence, permit any unauthorized person to obtain classified information regarding this project I will have then violated the Provisions of the National Espionage Act and will be subject to punishment thereunder by imprisonment for not more than ten years, or fined not more than \$10,000.

Stafford Ludaway Colver.
Witness

Paul Reznickoff
Signature upon Entry on Duty

Jan 9/45
Date

Signature upon Separation from Employment.

Witness

Date

c-o-p-y
6/1/45

Microscopic Study of Slides of [REDACTED]

This is clearly a case of leucaemia showing leucaemic alterations in the circulating blood and other tissue changes familiar from cases of this type.

The cells infiltrating the various organs resemble lymphocytes. There is a great uniformity among them with but little variation in the configuration and size of the nuclei, the distribution of chromatin and the amount of cytoplasm which is not very abundant. Mitotic figures are very scant. The changes in the various organs are as follows:

Three sections of bone marrow show complete absence of normal blood forming activity in the marrow of the rib and vertebra, whereas a few foci of erythroblasts and a few scattered myelocytes can be observed in the femoral marrow. The former two sites show complete replacement of all normal cellular elements, of sinuses and of fat tissue with tumor cells. In the femoral marrow the tumor cells are not as abundantly present and the architecture is not entirely destroyed. There is widespread haemorrhage in the latter.

The parenchyma of the spleen is diffusely infiltrated with tumor cells and the normal architecture is almost completely destroyed.

The lymphnodes (4 sections) show considerable enlargement and complete obliteration of the normal architecture and infiltration with tumor cells, which extend beyond the capsule into the fat tissue.

In the liver the distribution of the lesions is characteristically seen in the periportal areas which are infiltrated with tumor cells. There is destruction of adjacent liver tissue. A little more variation in the appearance of tumor cells is seen in these foci and mitotic figures are more frequent here than elsewhere. In the liver sinuses there are free tumor cells and scattered large macrophages with and without phagocytized material, in the cytoplasm. Many liver cells show a finely granular brownish pigment in the cytoplasm.

In the lung there is a moderate amount of oedema here and there. There are many pigment laden macrophages in the alveoli. Lymphoid cells similar to the ones seen in other organs are noted in the large blood vessels, in the capillaries, in the alveolar walls and free in many alveoli. There are a few foci in both sections of lung tissue where small numbers of alveoli are completely filled with lymphoid cells, extravasated red blood cells, a few necrotic cells, debris and a network of delicate strands of fibrin. A few scattered plump and short, blue staining (hematoxylin-azur II) bacteria are occasionally noted in this exudate. There are no mature granulocytes in these areas.

1156034

In the myocardium there are perivascular scars and scattered interstitial infiltrations with tumor cells. Similar foci are located under the endocardium and epicardium. They are rather extensive in the latter location and accompanied by haemorrhages.

Numerous interstitial tumor cell infiltrations are seen in both kidneys. The glomeruli and tubules show no noteworthy abnormalities. There is extensive infiltration of the pelvic fat tissue with tumor cells.

The testis shows massive infiltration of the interstitial tissue with tumor cells. The interstitial cells of the testis (Leydig cells) remain intact as islands between the tumor cells. The testicular tubules are widely separated from one another. They show intact spermatogonia and spermatocytes and a moderate number of the latter are in meiosis. No mature spermatozoa are seen.

The stomach shows no striking alterations.

Comments;

This is obviously a case of rapidly progressing, acute leucaemia and although the blood smears taken before death show a predominance of immature "blast" cells, which could possibly differentiate in either direction, it is felt that many of these "blast" cells do resemble lymphocytes rather than myelocytes. There is moreover a relative large number of immature lymphocytes in these smears and myelocytes are extremely rare.

Although post-mortem autolysis of the organs is slight, a cytological analysis of the tumor cells has not been attempted (autopsy 17 hours post mortem). But here again the character of the tumor cells is more that of lymphocytes and the anatomic distribution of the tumor cells in the liver for instance is rather characteristic of lymphatic leucaemia.

It is on the basis of these facts, which could be elaborated further, that this case is classified as acute lymphatic leucaemia.

Microscopic Diagnosis

Lymphatic leucaemia. Leucaemic infiltrations of bone marrow (rib, vertebra, femur), lymphnodes, spleen, liver, lung, kidneys, testis and heart with scattered haemorrhages. Slight broncho-pneumonia (incipient) and pulmonary oedema.

Hermann Lisso, M. D. (Signed)

The University of Rochester
School of Medicine and Dentistry

P. O. BOX 287, CRITTENDEN STATION
Rochester 7, N. Y.

4 November 1944.

Dear Colonel Warren:

This is to recount a few of the undertones. Both Dr. Resnikoff and Dr. Craver addressed me as Captain Metcalf when I arrived. How they knew I didn't find out. I had a talk privately with Dr. Resnikoff, at which time he told me that he was representing [redacted] and that he wanted to be extremely open-minded in the whole affair. He stated that he was invited by Dr. Craver to see the patient at Memorial upon the wife's request. He intimated that the company concerned suggested that the wife call him in on the case. He stated that the wife had told him that the man had been exposed to radiation and some chemicals including Benzol while working with the company. He also told me that sometime in the past, the patient was seen in Chicago and told that they had been seeing a lot of leukemia lately. I did not attempt to draw him out on that point for more details. I suggested to Dr. Resnikoff that he send a report. He was quite reticent on that point, and suggested that Dr. Craver write him a letter stating that they would like his reaction to the case, and he would then get in touch with the wife, and with her permission, would make comments on the case.

I can't quite remember the exact words, but Resnikoff stated that if the patient had been exposed to Benzol while at work with the company, the whole thing was compensable. I had the feeling, even though he didn't say it, that he was inclined to feel that the case was compensable. However, I wonder at his statement that there was a possibility that the man worked with Benzol before coming to the company. I do not know when it was that the man was seen in Chicago. One might be able to find that out. Resnikoff stated that he has all this information that I have included here, written up in more detail in his own notes.

While in the autopsy room, Resnikoff called Dr. Craver and myself to the side and suggested that, inasmuch as the government was obviously interested in this matter, we talk over the advisability of my taking tissues away with me without the wife's permission. He felt that all sorts of complications might arise, and that he would be unpleasantly involved in the end. Dr. Craver said that he wouldn't worry about that, but that he would tell the wife, if the occasion arose, that the tissues were being sent around to other places as is routine in any interesting and unusual case.

In the course of the conversation, I did not deny that I was representing the government because it was obvious they knew my rank. Dr. Resnikoff, at one point, asked me directly just who and what in the government was I representing, and I ignored his question. They did know that I was from Rochester and that I flew down. They were expecting me. Dr. Craver mentioned you several times and referred to you as Colonel Warren. Craver at least knew that the material was to go to Jacobsen. No one mentioned Bloom's name. I did not mention the Manhattan project.

1156036

The University of Rochester
School of Medicine and Dentistry

P. O. BOX 287, CRITTENDEN STATION
Rochester 7, N. Y.

Colonel Warren.

Page 2.

4 November 1944.

Dr. Foote performed the autopsy, and Dr. Beckett assisted him. There were two other internes in the autopsy room, but they seemed interested only in the findings, and asked no questions. I do not believe that they knew who I was. Dr. Craver said that someone from Intelligence was talking with him at 9:30 in the morning. It is possible, I suppose, that this man told him who I was as I didn't see Craver until about 10:15.

Sincerely,

Rogee

RGM:leg

1156037

NAME

No.

149

WORK

DATE	SP. GR.	REACT.	ALB.	REDUCT.	CBC HFF	WBC HFF	CASTS	MISC. LABORATORY REPORTS
9/25/43	1.005	neut	0	0	0	0	0	
10/7/43	1.020	acid	0	0	0	0	0	
11/24/43	1.022	alk.	0	0	0	0	0	
12/30/43	1.024	alk.	0	0	2-7	0	0	
1/21/44	1.025	alk.	0	0	1-3	0	0	
2/18/44	1.025	alk.	0	0	2-3	0	0	
3/4/44	1.025	alk.	0	0	0	0	0	
4/14/44	1.012	acid	0	0	0	0	0	
4/29/44	1.020	alk.	0	0	0	0	0	
<i>Chicago Records</i>								
4-29-43	1026	alk.	0	0	0	0	0	
7-7-43	1004	alk.	0	0	0	0	0	

1156038

DON'T SAY IT — WRITE IT

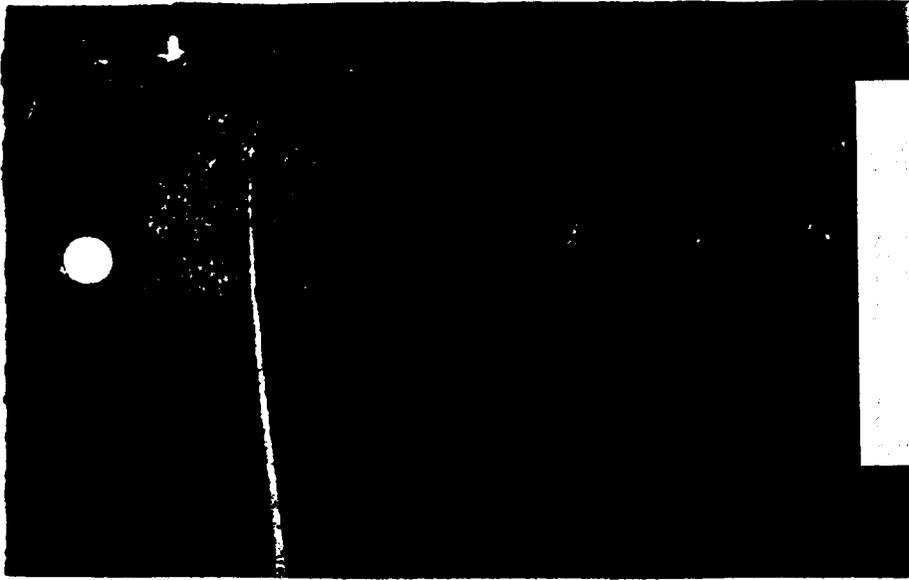
TO Col. Warren

DATE November 1, 1944

FROM John E. Wirth's office

Attached is the Pocket Meter Readings for [REDACTED] for 1943. Please attach to readings for 1944, forwarded to you on November 1, 1944

1156039



1156040

May 15, 1945

Received of Clinton Laboratories the following material
and equipment as of this date:

- 1 - Film Badge #63
- 1 - Pocket Meter (13
529)
- 2 - Films worn by employee on 5-28-45 (one sensitive, and
one insensitive).
- 4 - Extra films to be used with film badge.
- 1 - Dittoed sheets covering "Personal Meter Service"
dated 4-25-44.

1156041

4/25/44

TO _____

FROM - Mr. G. I. Central

Attached is a copy of the regulations governing the distribution and use of Pocket Meters. Please pass this along to your men, explaining that this program goes into effect May 1st, 1944.

1156042

FEDERAL BUREAU OF INVESTIGATION

1. New Badges

Beginning May 1st, 1944 a new type badge meter will be available to supplement readings from the pocket meters. The badge will be distinguished by the individual's payroll number. The interpretation of the badge readings will be disturbed if the badges are opened up or the contents inspected in the field. All persons directed to wear pocket meters should also wear the badge.

2. Distribution of Meters

The present system of distribution has put considerable unnecessary strain on Section Chiefs and Supervisors and on the Meter Distribution Service. The meter records have been inadequate because some men have failed to wear meters regularly. The proposed new system should simplify the picking up and return of meters and give full data on the relevant personnel.

3. Identification

All men regularly assigned to the Operating Area will have a red tag in the upper left hand corner of the photopass. Men with red tagged passes will be required to collect meters and badges in a designated clock alley and wear them at all times while on the Site.

4. Entrance to Plant Site

(a) Weekly salary roll red tagged employees will enter the plant by Alley 3, 3 or 4 and will pick up meters and badges at that time. They will exit by the same alley and deposit meters and badge at that time.

(b) Monthly salary roll red tagged employees may enter either by clock Alley 2 (This will be a clockless alley) or by 703-A. In either case they should pick up meters in Alley 2, before proceeding to work.

Exit from the plant will be conditional on the surrender of meters and badge in Alley 2. Those men are asked not to leave the plant except by Alley 2. Each alley will have racks for IN and OUT traffic. Lines will go by numerical order in columns and from left to right. See sketch.

(c) Colored personnel only may enter by the old construction clock alleys.

(d) Employees not bearing red tagged photopasses may enter by any gates proper prior to this date.

1156043

Meters for
pass #125

125	126
127	128
129	130
131	132

Meters will be above the respective pass number.

Entrance to Restricted Area

- (a) Patrol will admit employees with red tagged badges only if they are carrying two meters and a new time badge. Exit will be unchallenged.
- (b) Visitors to the restricted area are those people who make infrequent trips to the area. Arbitrarily at the present time this means people who make not more than three trips per week. (Some maintenance men, firemen, patrol men and genuine plant visitors come in this class). These people will collect two meters and a badge at the restricted area gate. The meter clerk will record the visitor's pass number or name. Exit from the restricted area will require deposit of the meter and badge with the clerk. In cases of emergency, entrance or exit can be effected without stopping for meters.

Lost Meters

If an employee loses a meter or badge in the site he will be required to present a written note from supervisor or Brown Leader before leaving the area. This should be presented at Alley 2 by red tagged employees, and the restricted area gate by visitors.

S.A.D. Personnel

Since Army personnel has not been assigned payroll numbers on this site it has been necessary to assign numbers to these men for identification purposes. This series begins with "A" and follows numerically. Each falling under this classification will be notified immediately of his assignment and should be directed to refer to this number in all future dealings with the Meter staff.

Location of Meters on the Person.

It should not be necessary to define a specific location for the wear of meters. They should be kept together at any handy part of the trunk. Preferably the badge should be near them.

H. G. Barber.

WAR DEPARTMENT
United States Engineer Office
Manhattan District
P.O. Box E
Oak Ridge, Tennessee

TO: Col. E. H. Marsden

RE: Receipt of Material.

Original to be signed personally by the recipient and returned to sender.

Duplicate to be retained by the recipient.

Triplicate retained by sender for reference.

I have personally received the material described above (sender's address) at the address below. I assume full responsibility for the material and its safekeeping. The material is described as follows: (in duplicate form)

Letter Drawing
Report Other File
(indicate)
No. and Nature of copies
PC CC
Other TO
(number and nature)

Number of inclosures
attachments

*SO. Signed original, CC, and copy of photo of copy.

By hand
(Postal Registry Number)

[Signature]
3/19/44

PLEASE SIGN AND RETURN ORIGINAL RECEIPT IMMEDIATELY
BY REGULAR MAIL.

1156045

Summary of case of [redacted] deceased,
Age 37, of [redacted] California,
as observed at Memorial Hospital, New York.

Admitted September 30, 1944
Died November 1, 1944, at 1:57 p.m., E.W.T.

Family history: Negative, except for heart disease in mother.

Past history: Usual childhood illnesses, and pneumonia in childhood.
No operations
Venereal diseases denied.

Occupation: Chemical engineer. Had some exposure to a double ring benzol compound 1939-1941 (Dow-Therm, said to be a 50% mixture of diphenyl and diphenyl oxide; said by Dr. G.H. Gehrman of duPont Company to have been found not harmful hematopoietic tissues). Exposure to radioactive sources November 1934 to April, 1944, following which time he has practically no exposure to radioactivity.

Record submitted from Clinton Laboratories of blood counts, September 28, 1943 to April 29, 1944:

Date	Hg.	R	W	%M	%L	Mn	EO	Remarks	
9/28/43	15.5	4.60	6.1	61	33	6	-	RBC appear normal	
10/27/43	----	----	6.6	58	38	4	-	" " "	
11/24/43	14.3	4.61	7.3	57	38	4	1	" " "	300
12/30/43	----	----	8.4	59	36	5	1	" " "	300
1/21/44	15.1	4.76	8.5	68	25	6	1	" " "	300
2/28/44	----	----	11.8	74	23	3	-	" " "	300
3/4/44	13.5	4.39	7.5	58	33	8	1	" " "	300
4/14/44	----	----	9.5	64	33	3	-	" " "	300
4/29/44	13.3	4.10	10.7	72	22	4	2	" " "	300

Present Illness: Onset gradual. During summer of 1944 had epigastric pain, gnawing, when hungry, relieved by food. Three months before admission (i.e. about end of June or first of July, 1944) had occasional nausea. One month later noted weakness and marked night sweats. About September 15 began to have pains in legs and bleeding from gums and occasional nose bleeds. For a time he had abdominal pain radiating to the back, but this had stopped. He had recently found some difficulty in standing. Review of systems was otherwise negative. He had maintained an excellent appetite.

Blood counts submitted by Richland Hospital:

	Hg		R	W	Poly.	Total		Metamye- locytes	Ly.	Immature Ly.
	g	%				Eo.	Baso.			
7/1/44	14.5	94	4.72	8.65	161	3	2	7	134	-
9/23/44	11.5	74	3.41	87.0	3	-	-	-	251	46
9/25/44	8.5	54	3.02	93.7	3	-	-	-	199	98

1156046

Summary of case of [REDACTED] deceased,
Age 37, of [REDACTED] California,
as observed at Memorial Hospital, New York.

Physical examination: A man in no acute distress, rather pale, somewhat weak.
Scalp negative.
Eyes: Equal and regular pupils. Conjunctivae pale. Fundi negative for hemorrhages.
Ears negative.
Nose negative.
Mouth: Gums spongy and bleeding slightly at margins.
Lymph nodes: Slight but definite general external lymph node enlargement in neck, axillae and groins.
Sternum: Markedly tender.
Lungs clear.
Heart: Rhythm regular. Apical systolic murmur. Snapping second sound.
Abdomen: Splenomegaly and hepatomegaly, each four finger breadths below costal margin.
External genitals normal
Rectal: Two external hemorrhoids.
Neurological: Hypoactive reflexes.

Provisional diagnosis: Acute leukemia.

Laboratory studies: Blood counts - see attached sheet, marked "Page 3".

Sternal marrow puncture - October 4, 1944
Lymphocytes 55% Nucleated reds - early 1%)
Lymphoblasts 45% " " - late 1%) in 100 WBC.

Blood chemistry - October 2, 1944
Serum bilirubin 1.3 mg/100 cc.
Serum cholesterol total 78.1 mg/100 cc.
" " free 43.3 " "
" " esters 34.8 " "
Serum protein 6.2%

X-ray reports

Chest, PA and right lateral, October 6, 1944: There are pleural adhesions at both bases, with partial obliteration of the costophrenic angles. There may be a beginning small amount of fluid at the left base. The heart is within normal limits. The aortic knob is prominent. There is no definite evidence of infiltration in the lung fields.

Plain film of the abdomen, October 18, 1944: Plain film of the abdomen shows nothing of diagnostic significance.

Test for alpha, beta and gamma rays was completely negative on a twenty-four hour specimen of urine, October 25-26, according to Dr. Leo Marinelli, physicist.

MEMORIAL HOSPITAL

NAME [REDACTED]

LAST (IN CAPITALS) First (in lower case or script) Middle

CASE NO. _____

BLOOD

		DATE																	
		6/20/44	10/5/44	10/21/44	10/26/44	10/29/44	10/31/44	11/1/44	11/14/44	11/19/44	11/26/44	11/28/44	12/2/44	12/23/44	12/27/44	12/30/44	1/31/45		
ROUTINE	Hemoglobin	52	50	51	38	34	33	34	41	39	53	56	40	40	37	20	30	28	
	RBC (1,000,000)	2.7	2.5	2.5	2.0	1.5	1.9	2.0	2.4	2.4	2.7	3.0	2.1	2.2	1.8	1.1	1.6	1.6	
	WBC (1,000)	55.8	80	125	1426	103	104	962	80	75	624		110	224	180	177	65.8	51.6	
	Polyuclear		1	1					1		6	20		10	5			3	
	Eosinophils										1								
	Neophils																		
	Monocytes											5							
	Lymphocytes	100	97	95	98			97	94	99	87	80	92	78	89	88			93
	Hematocrit		18.5			11				17.2			29			8			
	MCV		84			73				72			138			73			
Sedimentation rate																			
Fragility																			
Nuclear																			
Reticulocytes														1					
Anisocytosis																			
Poikilocytosis																			
Polychromatophilia																			
Prothrombin																			
Bleeding Time														72					
Clotting Time																			
Plasma (1,000)	85.4	110	110	den	72		den	den	76.8	den	Low		71	den	26.4	33.2			
NEUTROPHILES	Myloblasts																		
	Protoplasts																		
	Mylocytes																		
	Metamyelocytes																		
	Band forms																	1	
Segmented																			
None, unidentified																			
spherules		2	4	2															
Smudge																			
TESTS	KAHN=K																		
	KLINE=KL																		
	WASS=W																		

(Plasma large lymphocytes)

156048

Summary of case of [redacted] deceased,
 Age 37, of [redacted] California
 as observed at Memorial Hospital, New York.

Clinical course: Temperature:-During the first week following admission on September 30, temperature (oral) remained normal or subnormal, except for one rise to 99.6 on the third day, and a rise to 100 on the sixth day and 100.6 (rectal) on the seventh day. During the second week, temperature (rectal) remained elevated, varying from 99.8 to 102.8, averaging about 101. During the third week the temperature was lower, and tended gradually downward, varying from 100.4 to 98.6. During the fourth week it averaged normal until the fifth and sixth days of that week, when it rose to 100 and 100.2 respectively. During the final five days of his illness, temperature was about on the normal line until the day before his death, when it rose to 102.8 (or

Treatment:-The diagnosis was so obviously acute leukemia that very little specific treatment was given. On October 5, Fowle solution was started, 2 drops t.i.d., to be increased to 3 drs t.i.d., the next day and 4 drops t.i.d., the following day. However, as he felt it spoiled his appetite it was stopped on October 7. He was given a high protein, high calorie diet, vitamin C 300 mg., t.i.d., vitamin K for two days (October 7 and 8), and codeine sulfate, grs. 1/2 - grs. 1, p.r.n.

Whole blood transfusions were given as follows:

500 cc. on October 9
 500 cc. " October 11
 350 cc. " October 16
 250 cc. " October 30

The transfusion on October 11 was followed by a marked chill and rise of temperature to 102.8.

X-ray therapy: On October 13, 18 and 26 the spleen was treated anteriorly by 100r of 250 KV x-rays, at 70 cm T.S.D., (1.5 mm.Cu filter), (port 12x12 cm). No real effect, good or bad, was observed as a result of this treatment.

Mouth lesions:-Early in his course at this hospital he developed a necrotic ulcer about the left lower third molar tooth. This subsided and seemed healed following daily spray cleansing and topical dusting with sulfathiazole powder.

Hemorrhagic diathesis:-Gums spongy and oozing blood slightly on admission (platelet 86,400). As the ulcer on the left lower gum healed, gradually this whole gum became swollen and purplish. Later he had repeated moderate epistaxis, subconjunctival hematomas, and vision failed because of retinal hemorrhages, especially in and about the maculae.

During the last two weeks he progressively lost appetite and became weaker. In the final two days he became more restless and stuporous, respirations rose to 30, 32 and 40.

He expired at 1:57 PM on November 1, 1944.

1156049

Summary of case of [REDACTED] deceased,
Age 37, of [REDACTED] California,
as observed at Memorial Hospital, New York.

Necropsy report: Autopsy done about seventeen hours after death.

General: A well developed but somewhat undernourished white man who appears about 35 years of age. Generalized rigor mortis present. Skin and mucous membranes are pale. Cutaneous petechiae not present. The bulbar conjunctiva of each eye contains extensive recent ecchymoses. Pupils equal and regular. Both upper and lower gums are thickened, somewhat spongy and show irregular reddish areas of discoloration, and here and there small foci of shallow and fairly clean ulceration. Externally there is no impressive lymphadenopathy. Small and perhaps slightly enlarged nodes are felt in each axilla and both groins. Cervical adenopathy not definite. Supraclavicular, infraclavicular, epitrochlear and popliteal nodes not palpable. External genitalia are negative.

Thoracic Cavity: Along the line of primary incision, the fat and subcutaneous tissues are rather thin. The muscles are pale. On removing the num, the left pleural space contains about one-half this quantity. Pleural surfaces are smooth and glistening. The lungs fill the pleural spaces almost completely. On neither side are there any pleural adhesions. Both lungs are moderately heavy and boggy, principally in their posterior portions. Scattered petechiae are distributed over both visceral and parietal pleura on both sides. The thymus is not visible grossly. The pericardium is smooth and glistening on both aspects, but there are many large and small petechiae on its inner surface. The sac contains a few cc. of thin, clear fluid. The heart is normal in size. The epicardium is studied with petechiae and they become confluent anteriorly to form large irregular ecchymoses.

Abdominal Cavity: The abdomen is not distended. The panniculus is 1 cm. deep and pale yellow. On opening the peritoneum there is no free or encysted fluid. Peritoneal surfaces are smooth and glistening, but over the various serosal aspects are many petechiae, some small, some a mm. or two in diameter. The intestines and stomach are not distended. The liver is large and extends five finger breadths below the costal margin in the mid-clavicular line. The spleen is about six times its normal size and there is an accessory spleen $2\frac{1}{2}$ cm. in diameter attached to the mid-posterior inferior surface of the diaphragm. The extraordinary fact is discovered that there is a congenital absence of the gall bladder. There is no external scar in the skin of the abdomen, there is no area which might have corresponded to the gall bladder bed, there is no cystic duct and there is a single hepatic duct which follows a nontenuous, uninterrupted course from the hilus of the liver across a portion of the head of the pancreas into a normally placed ampulla of Vater. This single hepatic duct is the usual caliber of a common bile duct. In the mesentery are abundant lymph nodes slightly greater than normal size.

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PAUL REZNIKOFF, M.D.
525 East 68 Street
New York

REgent 4-6000

December 28, 1944

Captain Roger G. Metcalf, M.D.
Strong Memorial Hospital
Rochester, New York

Dear Captain Metcalf:

Re: [REDACTED]

You have undoubtedly received the summary in the case of [REDACTED] who was admitted to the Memorial Hospital in New York City on September 30, 1944 and died November 1, 1944. His history, as recorded by Dr. Craver, is the same history which I obtained. It should be noted that he had some exposure to a double ring benzol compound between 1939-1941, which is not supposed to be harmful, according to Dr. G. H. Gehrman. He was also exposed to radio-active sources between November 1943 and April, 1944.

The following is a copy of the substances which [REDACTED] gave me when I visited him in the hospital:

1929-1939: cellulose-nitrate, cellulose acetate and ethyl cellulose plastics.

Solvents most commonly used: ethyl alcohol denatured with $\frac{1}{2}$ of 1% benzol; ethyl acetate, ethyl methyl-ketone acetone, methyl acetate; zylene, hexane.

Plasticizers: camphor, tricresyl phosphate, triphenyl phosphate, ethyl cellosolve, dimethyl phthalate, diethyl phthalate.

1939-1942: nylon monofilament development. No particular chemicals used in process. Dowtherm A, a 50% mixture of diphenyl and diphenyloxide used for heat transfer medium. Phthalic anhydride and sodium chlorate used for cleaning extrusion equipment. Cellulose, nitric acid and sulphuric acid.

1942-1943: smokeless powder manufacture using diphenylamine, aniline, dimethylamine manufacture, starting with benzine. Nitric acid manufacture, starting with ammonia.

1943-1944: Special development work. Varying amount of X-ray exposure.

[REDACTED] could not tell me about his chemical contacts between 1943-1944 because of the secrecy connected with them.

1156051

Re: [REDACTED]

-2-

12/26/44

There is one statement which was made by [REDACTED] in the presence of [REDACTED] which I think should be investigated. According to [REDACTED] Dr. Cantrell of the DuPont Company stated "We are getting quite a few leukemia cases recently". This statement was supposed to be made in the presence of [REDACTED] and Dr. Norwood.

His physical examination, his blood studies and his bone marrow studies all point to leukemia, and it is my belief that this type of leukemia is myelogenous. In view of the large liver and spleen, I do not think that it is very acute, in point of time, but certainly must have existed several months, at least six.

The autopsy report substantiates the clinical findings and indicated quite clearly that the patient died of myelogenic leukemia, probably sub-acute in point of time.

The important feature in this case is the possible relationship to his various contacts in his work. I have no positive information about the details of this, but if he was subjected to any appreciable amount of benzol and x-ray exposure, the possibility of casual relationship cannot be denied, although it cannot be proven. I believe that the people connected with the DuPont Company are in the best position to determine this exposure to benzol and x-ray.

I am assuming of course that you have Dr. Craver's summary of the physical examination, blood counts and autopsy findings, so that it is unnecessary for me to send you a copy of these.

Very truly yours,

/s/ Paul Reznikoff

Paul Reznikoff, M.D.

PR:rs

Copy to: Dr. L.F. Craver
[REDACTED]

1156052

ARMY SERVICE FORCES
UNITED STATES ENGINEER OFFICE
ROCHESTER AREA
P. O. BOX 288, STATION 43,
ROCHESTER 7, N.Y.

C
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Address Reply to
The Area Engineer

5 December 1944

EIDM R3.

Subject: Transmittal of Report.

To: The District Engineer, Manhattan District, Oak Ridge, Tenn.
(Attention: Col. Stafford L. Warren)

1. Transmitted herewith, in duplicate, is report on the [REDACTED] case which was forwarded to the undersigned by Dr. Lloyd Craver. The third copy of this report is being forwarded to Dr. Stone.

2. As yet, Dr. Resnikoff's report has not been received.

For the Area Engineer:

ROGER G. METCALF,
Captain, Medical Corps.

Incl.:
Rpt., in dup.

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1156054

Summary of case of [REDACTED] deceased,
 Age 37, of [REDACTED] California,
 as observed at Memorial Hospital, New York

Organs: Heart: Weighs 380 grms. External surface has been described. On opening this organ all valves and chambers are unremarkable. There are indiscriminately scattered but not numerous endocardial petechiae. Coronary vessels reveal a few tiny flicks of atheroma.

Aorta: Only abnormality is early atheroma about orifice of the intercostal vessels and the abdominal portion of the aorta.

Inferior vena cava: Nothing of note.

Lungs: They are similar in appearance. External surfaces described above. On section the cut surface reveals moderate but not firm, density increasing as the posterior portions are approached. No localized consolidations. There are, however, in both lungs, areas that seem to show irregular patchy digestion of lung substance. At these points the cut surface is paler than the surrounding lung tissue and is dirty grayish pink. The distribution of this alteration is bronchial, bilateral, and only moderately extensive. The cut surfaces have a sour smell as if from aspirated gastric juice. Sections taken. In neither lung is a peripheral Ghon tubercle detected, there is no tracheo-bronchial calcification and the lung apices are not scarred. Tracheo-bronchial nodes are moderately pigmented and slightly enlarged.

Liver: Weighs 2900 grms. Capsule not thickened. Anterior edge smooth and rounded. Externally one sees many small scattered, irregular petechiae. On section cut surface bulges moderately. Exposed surfaces are pale. No bile discoloration. Lobular architecture not interrupted but the lobules are rather large and the portal areas much more prominent than usual. They are grayish pink in color and paler than other lobular areas. Central zones are not especially prominent. Biliary system not dilated.

Gall bladder: See notes under abdominal cavity.

Spleen: Weighs 1100 grms. Capsule moderately tense but not appreciably thickened. Externally it is pale, grayish pink with many scattered petechiae and a few small ecchymoses. On section, cut surface bulges and in this rather soft organ malpighian corpuscles are not seen. The various cut surfaces are essentially homogeneous, pale, grayish pink with rare small petechiae. Accessory spleen has been mentioned above.

Pancreas: Not remarkable. Main pancreatic duct was probed to an opening in the duodenum about $1\frac{1}{2}$ cm. above the ampulla of Vater.

Adrenals: They show only post mortem central autolysis.

Summary of case of [REDACTED], deceased,
Age 37, of [REDACTED] California,
as observed at Memorial Hospital, New York

Kidneys and ureters: Kidneys similar in appearance. Capsules strip easily revealing smooth, underlying surfaces that are pale and dotted with occasional petechiae. On section, architecture intact. Parenchyma pale. In the peripelvic connective tissue of each kidney slight bloody ooze has occurred. Inner aspect of pelvis is also slightly blood stained. Ureters normal.

Bladder, prostate, urethra, seminal vesicles and testicles: No abnormalities of these organs.

Esophagus, stomach and intestines: Small and large petechiae as well as small ecchymoses are present in the gastric mucosa and the mucosa of both the large and small intestine.

Appendix: Normal.

Lymph nodes: Exposure of the axillary and inguinal nodes show them slightly larger than was thought on external examination. The node situation can be summarized as slight generalized lymphadenopathy with somewhat greater enlargement of scattered nodes in the paraaortic chains, in the base of the mesentery, at the hilus of the liver, along the superior border of the pancreas and deep in the right femoral region. The largest of these nodes are 2 cm. in greatest dimension and these are exceptional. Even the largest nodes tend to retain normal configuration. They are discrete, soft and on section appear diffuse and pale, pinkish gray.

Bone marrow: The vertebral, costal and sternal marrows are diffuse and pale. Marrow from the middle of the right femur, downward, is reddish pink and no fatty marrow is present.

Brain: Cerebro-spinal fluid not under tension or increased in amount. It is crystal clear. Meninges smooth and glistening. No vascular congestion. Brain is normal in size and shape. On repeated section the only abnormality is a single fresh-looking hemorrhage, well-circumscribed and rounded, 6 mm. in diameter, situated in the middle of the right lentiform nucleus. On section the brain stem there may be a few petechiae in the pons. Section taken.

Summary of case of [REDACTED], deceased,
 Age 37, of [REDACTED] California,
 as observed at Memorial Hospital, New York

Anatomical
 Diagnosis:

1. Generalized leukemia involving all bone marrows, spleen and lymph nodes.
2. Leukemic infiltration of liver and kidneys.
3. Anemia and malnutrition.
4. Bilateral conjunctival ecchymosis.
5. Petechial hemorrhages of serosae and various viscera.
6. Small, recent hemorrhage, right lentiform nucleus.
7. Small bilateral pleural effusions.
8. Congenital absence of gall bladder and cystic duct.
9. Early arteriosclerosis aorta and large branches.
10. Aspiration of gastric content, causing areas of pulmonary autolysis and possible early lobular pneumonia.

Microscopic:

Gross diagnosis confirmed. In addition there are infiltrates in testis, myocardium and lung. Lung autolysis shown and here there is much post-mortem bacterial growth.

Case classified as myelogenous leukemia. Most of the cells are blasts and superficially one might mistake this as lymphatic leukemia. We considered case as myelogenous before death on basis of smears on either 10-16-44 or 10-18-44. Other smears were too full of blasts to differentiate.