ROWLAND D. GOODMAN, 2nd, M.D., P.A.

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TELEPHONE 994-9295

REVIEW VERY EXTENSIVE RECORDS DEATH CASE REPORT

RE: Lawrence Colby

DATE: 10/22/92

HISTORY: This 55 year old male died on 5/5/89, an autopsy was performed showing the cause of death to be the following: a scar adenocarcinoma of the lung involving the liver which was enlarged to 3400mg.he also had bilateral pleural involvement, small bowel, lymph nodes and adrenal gland metastasis; there was enlarged spleen as well as other lesions which were found but were not directly and causally related to his death. The autopsy showed on both pleural surfaces indurated nodularities ranging from sand grain size to 0.5cm in single dimension; the liver weighed 3400 grams and showed multiple multifocally confluent tumor nodules measuring up to 8cm maximum; the prostate was free of any tumor nodules or cancer.

INDUSTRIAL HISTORY: The patient was employed by Union Carbide - OTD from 1960 to 1967. While there he worked as a supervisor and shop steward on the assembly line in the packaging department. As a result he was exposed to polyethelenes and PVC pellets and powder. The concentrations of these chemicals were heavy because of the intensity and density of the PVC product and its monomer which made it difficult to breathe. He also worked with polyvinyl chloride (PVC), vinyl chloride monomers (VCM), polyethelene, polyurethane, polystyrene, isopropilidene, dispenal resins and phenols as well as lubricants and fuels, there were also fumes from the heat sealers in the vinyl resin bag packing bay. Of these chemicals vinyl chloride and phenols have been identified by the N.J. State Department of Health as carcinogens. The patient constantly complained to his wife about the exposure to the dirt and products that were packaged and referred to as PVC. The plant had no ventilation, the working conditions were bad. He would come home with white dust over his clothing which he removed befere entering the house. These were cleaned at a laundromat. He constantly spit up white mucous and his nose, eyes and ears were irritated. His nose bled on many occasions. The while powder irritated his feet and face which would get red.

REL RECORDS: A page by page review has been made of a temendous number of records in this case. The following relavent ones abstracted: Riverview Hospital 4/5/81 - diabetes mellitus; malignant hypertension; urinary tract infection. This indicates the patient was a heavy smoker and had heavy ethynol intake but the quantities are not given in any detail. Same Hospital 7/10/83 - cirrhosis of the liver; diabetes mellitus; dehydration. There is no liver biopsy report in this record. Same hospital 3/7/89 - no final diagnosis but the admission impression was TIA; cancer of the pancreas; r/o metastatic disease to the brain and diabetes mellitus.

REL RECORDS (continued) Riverview Hospital 2/1/89 - adenocardinoma, metastatic to liver with unknown primary; COPD; reactive depression plus others. Same Hospital 7/10/83 - cirrhosis of the liver; diabetes mellitus; dehydration. This indicates patient smoked 2 packs of cigarettes daily and admits to heavy ethynol intake. R. Commentucci, M.D. 6/24/86 - this indicates patient smokes 2-3 packs of cigarettes daily, drinks at least a 6 pack of beer daily. It also confirms that he worked with polyvinyl chloride for 8 years but had not worked with the chemicals for the past 17 to 18 years. It also indicates the patient states he was exposed to over 100 times the present acceptable dose of the chemical on a daily basis. Request for admission dated 9/4/91 indicating that Union Carbide Corporation shipped vinylchloride resins to the OTD facility. Answer to interrogatories indicating the defendant was aware of the nature of the medical problems as a result of the patient's exposure to PVC and other chemicals and conditions existing in the defendant's plant. U.S. Department of Health Education and Welfare request for health hazard evaluation listing the hazards at the Amboy Terminating Company the same chemicals as listed above. Defendant's answers to plaintiff's interrogatories undated - this was reviewed but not relied on in coming to the conclusion reached below. Additional defendant's answers to plaintiff's supplemental interrogatories again reviewed but not relied on. Defendant's statement of facts under the heading "U.S. District Court for the District of N.J." was reviewed but not relied on. Report of O. Aroback M.D. 6/25/90 also reviewed but not relied on. Report of S.S. Epstein, M.D. 8/15/89 also reviewed.

CONCLUSION: On the basis of the information submitted in this case it is my opinion that this patient died on 5/5/89 of the causes stated in the autopsy report namely adenocarcinoma of the lungs with metastesis to the liver, bilateral pleurae, small bowel, lymph nodes as shown as shown in the report. It is further my opinion that there is direct causal relationship between the industrial exposure to identified carcinogens as described in the history above particularly vinylchloride monomers and phenols. In my opinion these substances were inhaled by the patient while employed at Union Carbide - OTD, they entered the cells of the lungs where they produced a derangement of the DNA resulting in cells which grew in an uncontrolled fashion which clinically is known as cancer. Therefore as a result of this DNA genetic derangement the patient developed characteristic symptoms and complaints of adenocardinoma of the lungs, the diagnosis was clearly established during his numerous hospitalizations and confirmed in the autopsy findings. There is therefore causal relationship between the exposure to carcinogens described above and the patient's death on 5/5/89 of the causes stated in detail in the autopsy report.

R.D. Goodman, M.D.

R.D. Goodman, M.D.
/sk

of Death in my office. It is acceptable with a raised seal affixed.

Sharon Rudder
REGISTRAR OF VITAL STATISTICS
Borough of Red Bank, Monmouth
County, State of New Jersey

Date Issued: OCT 17 1989

New Jersey State Department of Health
CERTIFICATE OF DEATH

STATE USE ONLY: 299

1. NAME OF DECEASED (First) Lawrence (Middle) A. (Last) Colby

2. DATE OF DEATH: 5/5/1989 | 3. SEX: M | 4. DATE OF BIRTH: 10/21/193[illegible] | 4a. AGE - Last Birthday (Years): 55 | 4b. UNDER 1 YEAR (Months / Days) | 4c. UNDER 1 DAY (Hours / Minutes)

5. SOCIAL SEC. NO.: 152-24-8880

6. PLACE OF DEATH: HOSPITAL: ☐ INPATIENT ☐ ER/OUTPATIENT ☒ DOA | OTHER: ☐ NURSING HOME ☐ RESIDENCE ☐ OTHER (Specify)

6a. FACILITY NAME (If not institution, give street and no.): Riverview Medical Center
6c. CITY/TOWN OR LOCATION: Red Bank Boro
6e. COUNTY: Monmouth

7a. RESIDENCE (State): NJ
7b. COUNTY: Monmouth
7c. CITY OR TOWN: Middletown Twp.
7d. STREET AND NUMBER: 502 Mackey Ave.
7e. INSIDE CITY LIMITS? ☒ YES ☐ NO
7f. ZIP CODE: 07718

8. BIRTHPLACE (City & State, or Foreign Country): Jersey City, N.J.
10a. DECEDENT EVER IN U.S. ARMED FORCES? ☒ YES ☐ NO
10b. IF YES, WAR DATES (From/To): Korea
11. MARITAL STATUS: ☐ NEVER MARRIED ☐ WIDOWED ☐ MARRIED ☐ DIVORCED

12. SURVIVING SPOUSE (If Wife, Maiden Name): Phyllis Calabrese
13. USUAL OCCUPATION (Kind of work done most of life, even if retired): Operating Engineer
14. KIND OF BUSINESS OR INDUSTRY: Construction

15. NAME AND ADDRESS OF LAST EMPLOYER: Building & Trades Union Local 825 Little Falls, N.J.

16. RACE: ☒ 1 WHITE ☐ 2 BLACK ☐ 3 AMER. INDIAN ☐ 4 OTHER (Specify):
17. OF HISPANIC ORIGIN? IF YES, SPECIFY: ☐ YES ☒ NO ☐ 1 MEXICAN ☐ 2 PUERTO RICAN ☐ 3 CUBAN ☐ 4 CENT./SO. AMERICA ☐ 5 OTHER (Specify):
18. DECEDENT'S EDUCATION (Highest Grade Completed): 15

19. NAME OF FATHER (First) (Middle) (Last): Lawrence X. Colby
20. MAIDEN NAME OF MOTHER (First) (Middle) (Last): Dotothy Schwind

21a. NAME OF INFORMANT: Phyllis Colby
21b. RELATIONSHIP: Wife
22a. DISPOSITION: ☒ BURIAL ☐ CREMATION ☐ ENTOMBMENT ☐ OTHER (Specify):

22b. NAME OF CEMETERY OR CREMATORY: Bay View Cemetery
22c. CITY OR TOWN: Middletown Twp.
22d. STATE: N.J.

23a. NAME AND ADDRESS OF FUNERAL HOME: John F. Pfleger Funeral Home Inc. 115 Tindall Rd. Middletown, N.J.

23b. SIGNATURE OF FUNERAL DIRECTOR: [signature]
23c. N.J. LICENSE NO.: 3244
24a. SIGNATURE OF LOCAL REGISTRAR: [signature]
24b. DATE RECEIVED: 5-5-89

26a. TIME OF DEATH: 4:20 A M
25b. DATE AND HOUR PRONOUNCED DEAD: DATE: 5/5/89 HOUR: 4:20 A M

Complete items 25c-d only when certifying physician is not available at time of death to certify cause of death.
25c. TO THE BEST OF MY KNOWLEDGE, DEATH OCCURRED AT TIME, DATE, AND PLACE INDICATED. SIGNATURE OF PRONOUNCER (If different than certifier):
25d. DATE SIGNED:

26. PART I
IMMEDIATE CAUSE (Final disease or condition resulting in death). Sequentially list conditions, if any, leading to immediate cause. Enter UNDERLYING CAUSE (Disease or injury that initiated events resulting in death) LAST
IMMEDIATE CAUSE (Enter the disease, injuries or complications that caused the death. Do not enter the mode of dying, such as cardiac or respiratory arrest, shock, or heart failure. Last only one cause on each line.)
a. Metastatic Cancer to Liver
DUE TO OR AS A CONSEQUENCE OF
b.
DUE TO OR AS A CONSEQUENCE OF
c.
DUE TO OR AS A CONSEQUENCE OF
d.
INTERVAL BETWEEN ONSET AND DEATH:
PART II (Other significant conditions - those contributing to death but not related to underlying cause in PART I)

27. IF FEMALE, WAS SHE PREGNANT AT DEATH, OR ANY TIME 90 DAYS PRIOR TO DEATH? ☐ YES ☐ NO
28. WAS AUTOPSY PERFORMED? ☒ YES ☐ NO

29. DEATH DUE TO: ☒ NATURAL ☐ ACCIDENT ☐ SUICIDE ☐ HOMICIDE ☐ PENDING INVESTIGATION ☐ COULD NOT BE DETERMINED
30a. DATE OF INJURY
30b. TIME OF INJURY: M
30c. INJURY AT WORK? ☐ YES ☐ NO
30d. DESCRIBE HOW INJURY OCCURRED
30e. PLACE: ☐ STREET ☐ OTHER (Specify) ☐ HOME ☐ OFFICE BUILDING ☐ FARM ☐ FACTORY
30f. LOCATION OF INJURY (Number and Street)
30g. CITY AND COUNTY

UCC 075842

31a. NAME AND ADDRESS OF CERTIFIER: [illegible] Jerald MD 20 White Rd Shrewsbury NJ
☐ CERTIFYING PHYSICIAN ☐ MEDICAL EXAMINER ☐ PRONOUNCER AND CERTIFIER
31b. TO THE BEST OF MY KNOWLEDGE, DEATH OCCURRED DUE TO CAUSES LISTED ABOVE.
31c. DATE SIGNED:

PHYSICIAN - Please Print
NAME OF DECEDENT AS KNOWN BY ATTENDING PHYSICIAN: Lawrence Colby
TIME OF DEATH: 4:20 A.M.
DATE OF DEATH: 5/5/89

STATE USE ONLY
IND/OCC
CAUSE
PLACE OF ACC
CAUSE CLASS

RIVERVIEW MEDICAL CENTER

DE. RTMENT OF PATHOLOGY

POST MORTEM EXAMINATION

M. # A-3382-89 DATE May 5, 1989

ER

AME Colby, Lawrence A. AGE SEX HOSPITAL NO. 69010956

ATE OF ADMISSION 5-5-89 HOUR 4:20 A.M.

ATE OF DEATH 5-5-89 HOUR 4:36 A.M.

ATE OF AUTOPSY 5-5-89 HOUR 11:30 A.M.

ESTRICTION: NONE

LINICAL DIAGNOSIS:

OCTOR ATTENDING: Dr. Cheslock/Dr. Fitzgerald

FINAL ANATOMIC DIAGNOSIS

NATOMICAL DIAGNOSIS:

I. Scar adenocarcinoma of lung: involving:
Liver (Hepatomegaly 3400gm.)
Pleural bilateral
Small bowel, lymph nodes (peri-pancreatic and mediastinal), microscopically adrenal (left)

II. Splenomegaly (300gm.) with marked softening of parenchyma, consistent with sepsis.

III. A. Left acute pyolonephritis and pyonephrosis with approximately 50ml purulent material in left pyeloureteral system.

B. Bilateral renal congestion

IV. A. Bilateral pulmonary congestion (right lung, 600gm., left lung, 550 gm.) and underlying emphysematous changes, bilateral: Bilateral pleural antnracosis. R/O pneumonia.

B. Bronchiectasis, left lower lobe.

V. Atherosclerotic cardiovascular disease with:

A. Cardiomegaly (420gm.), mild,
B. Coronary artery disease, lad, right circumflex with approximately 50-60% stenosis
C. Atherometa subrenal aorta with extension to iliac arteries

VMG/mm

Vito M. Gulli M.D.
PROTOCOL BY

Vito M. Gulli M.D.
PATHOLOGIST

26

UCC 075843

A well developed, cachectic, white male measures 5'11" and is estimated to weigh 125-130lbs. There is a normal male alopecia pattern as well as normal external male genitalia. The iridis are grey, the sclera show no icterus and the pupils are equal at 0.5cm. Upper and lower dentures are present and are complete. There are no palpable masses in the axillary, inguinal, cervical or olecranon regions. The abdomen is scaphoid and there appears to be an increased anteroposterior thoracic diameter. The umbilicus is midline, and there is a left inferior parascapular decubitus type ulceration which measures approximately 4cm. diameter. Mild peripheral cyanosis and m ild rigor and livor mortis are noted. A urine catheter is in place.

INTERNAL GROSS DESCRIPTION:

SEROUS CAVITIES:

The thorax shows no fluid accumulations.

Pericardium shows no fluid accumulations.

Peritoneum contains approximately 150ml of amber fluid.

CARDIOVASCULAR SYSTEM:

The heart weighs 420gms. The coronaries arise and distribute normally and, on serial secitoning, reveal moderate atheromatous plaquing in both the left anterior descending as well as the right tributaries, with the lumenal stenosis ranging from 50-60%. The left ventricular wall measures 2.0cm. and the right ventricular wall measures 0.3cm. The valves are well formed and show no significant abnormalities or vegetations. The aorta and all of its major branches show mild atheromatous plaquing, particularly prominent in the abdominal segment, however, no thrombi or aneurysmal changes are noted. The major venous tributaries show no thrombi and no significant other abnormalities.

RESPIRATORY SYSTEM:

The laryngeal and tracheal structures are midline and grossly normal appearing.

The right lung weighs 600gms. and the left lung weighs 550gms. Both pleurae show geographic anthracosis of varying degree. Close examination of both the pleural surfaces reveal indurated nodularities which range from sand grain size to approximately 0.5cm. in maximum single dimension and are found in apical as well as non-apical locations. On sectioning, the lung parenchyma is congested and there is some fluid expressed from the lungs upon compression. There is some interstitial fibrosis and grossly appreciable emphysematous type changes. In the left lower lobe, in addition, there is a segmental bronchial structure which is wide and shows thin walls and is consistent with an isolated bronchiectatic change.

GASTROINTESTINAL SYSTEM:

The esophagus is grossly normal and continuous with a stomach which shows a hyperemic mucosa.

Although the duodenal, ileal and jejunum mucosae are grossly unremarkable but hyperemic, there are multiple grey-white, indurated nodularities present in the peri-intestinal adipose tissue. These measure up to 1.5cm. in maximum single dimension. The large bowel shows no significant abnormalities throughout its course. In addition, some early autolytic changes are noted throughout.

The liver weighs 3,400gms, and sectioning reveals multiple multifocally confluent tumor nodules which measures up to 8cm. maximum single dimension. The intervening hepatic parenchyma suggests changes consistent with chronic passive congestion and is minimally green tinged in some areas.

The pancreas is located in a normal anatomic position, shows no gross evidence of distortion by either tumor masses or other pathologic processes. There is patchy fibrosis as well as some early autolytic changes to the otherwise grossly normal appearing organ.

UROGENITAL SYSTEM:

The right kidney is exposed following the removal of the perirenal capsule which strips easily. The right kidney, itself, shows a finely granular and congested exterior and weighs 210gms. Cortical medullary junction is grossly unremarkable and the medulla showed no significant abnormalities. The right pyelocalceal system is grossly unremarkable and courses into the bladder in a normal fashion. The left kidney is exposed following the removal of left perirenal capsule which strips with a little bit more difficulty. The left kidney, itself, weighs 300gms. and the cortical surface is hyperemic and patchy yellow-tan. Serial sectioning reveals the presence of disseminated, probable microabscess formation, with areas of confluent parenchymal dissolution. The pyelocalceal tract contains approximately 50ml of purulent material and some of this extends into the proximal uretheral tract. There is mildly associated dilitation of the calyces.

The urinary bladder is trabeculated and patchily hyperemic.

The prostate measures up to 4.5cm., is symmetric, rubbery, tan-grey, and grossly shows no evidence of tumor nodule formation.

The testes are grossly normal appearing with intact tunica albuginea and tan, seminiferous tubules which show residual elasticity.

ENDOCRINE SYSTEM:

Both right and left adrenals are mildly autolyzed with the left showing focal nodularity of the cortex which measures up to 0.3cm.

HEMOLYMPHATIC SYSTEM:

The spleen weighs 300gms. and the parenchyma is markedly defluent and congested.

Lymph node regions, including mesenteric, perithoracic, aorta and peripancreatic shows matted nodes which measures up to 3-4cm. in maximum sigle dimension, are grey-white and show focal necrosis. Similar nodules which may not represent lymphoid tissue are adherent in several segments of the small intestine exteriorly.

MUSCULOSKELETAL SYSTEM:

Gross examination does not reveal any major abnormalities of the skeletal system.

CENTRAL NERVOUS SYSTEM:

The brain is surrounded by intact dura, upon the removal of which, a symmetric, slightly edematous and congested brain is observed. The weight of the brain is 1,350gms. and exteriorly, there are no areas of increased softening or purulent accumulations beneath the pia-arachnoid. The Circle of Willis vessels are intact symmetric and show focal non-occlusive atheromatous plaquing.

VMG/ce

Re: Colby v.Union Carb_ e

HISTORY:

Lawrence A. Colby, was born on October 21, 1933 and died on May 5, 1989 at age 55 from primary adenocarcinoma of the lung which metastasize to the liver, small bowel and lymph nodes.

He left surviving the following family:

Phyllis A. Colby born July 24,1932 - his wife - who was 57 years of age at the time of her husband's death.
Mrs. Colby works for the Middletown Housing Authority as a housing technician and earns approximately $25,000 per year.

Lawrence - born August 17, 1959 - his son - who was 29 years of age at the time of his father's death and who is agoraphobic and was dependent upon his father for medical and paternal support. Since that time his mother has had to assume these responsibilities.

Michael - born May 25, 1962 - his son - who was 27 years of age at the time of his father's death - he is married at the present time.

Monica - born June 25, 1966 - his daughter - who was 23 years of age at the time of her father's death. Between the ages of 19 and 23 she was dependent upon her father for financial support for her education; room and board and spending money.

Lawrence Colby attended St. Aloysius High School in Jersey City where he graduated in 1952. He attended Gonzaga University in Spokane for 1 1/2 years during the time he served with the U.S. Air force as a flight attendant and flight mechanic and became a group trainer. He was honorably discharged in 1956. He also attended Seton Hall University for one year in the evenings and further had a Real Estate License for 4 years and worked weekends when he could.

He resided in Jersey City for a total of 19 years. He then moved to Bayonne where he resided for 10 years and then to Belford until his date of death. His last address was 502 Mackey Ave., Belford, N.J. 07718.

He married Phyllis Calabrese on September 13, 1958 at St. Paul's Church in Jersey City.

Work record:

Mr. Colby has been working since he was 17 years of age except for his stay in the service.

Bendix Company in New Jersey - one year as a mechanic

Jersey City Incinerator for 1 1/2 years operating an overhead crane.

Union Carbide - OTD 1960 to 1967

Worked out of Local 825, Operating Engineers. This was the same local that represented OTD.

After he left OTD at the request of his wife since she felt the job was dangerous and affecting his health. He worked at various jobs through the Local. During 1988 he worked a full year and stopped working on January 3, 1989 and was hospitalized off and on until the date of his death on May 5, 1989.

Mr. Colby earned approximately $45,000 per year which included full Medical benefits; a Retirement plan; he received the sum of $2000 asa bonus every November in lieu of vacations. Mr. Colby had intentions on working until age 65.

At OTD Lawrence Colby worked as a Supervisor and Shop Steward on the assembly line in the Packaging Department and Assembly Department. He was exposed during this period of time to polyethelenes and PVC pellets and powder. The concentrations of these chemicals were heavy because of the intensity and density of the PVC product and its monomer which made it very difficult to breath. He told his wife that bags would constantly break open and the contents would spill out. He even attempted to glue the bags to prevent them from breaking open.

Mr. Colby worked with the following chemicals: Polyvinyl Chloride (PVC); and Vinyl Chloride Monomers (VCM); Polyethylene; Polyurethane; Polystyrene; Isopropilidene; Bisphenol Resins and Phenols; equipment lubricants and fuels; fumes from the heat sealers in the vinyl resin bag packing bay. They all carried the Union Carbide Corporation logo.

These products came into the plant in box cars in large bags of 50 pounds each and in 500 pound boxes. The bulk came in large metal containers carrying approximately 4050 thousand pounds which would be picked up in the air and dumped into a hopper which in turn went into the dumping room. This also carried the Union Carbide logo. There were no instructions or descriptions supplied for the handling of these products.

During the period of time he worked for OTD he constantly complained to his wife about the problems which existed at the plant and his exposure to the dirt and products that were packaged and referred to as PVC. The plant had no ventilation and the working conditions were bad. He would come home with white dust over his clothing which he would removed before entering the house and which Mrs. Colby would take to a laundromat. She would not wash his clothing at home. She would redo his underwear and socks to make sure that the clothing next to his skin would be absolutely clean because of skin irritation.

He would constantly spit up white mucous and his nose, eyes and ears were irritated constantly. His nose would bleed on many occasions. His skin would constantly be irritated. The white powder irritated his feet and face which would get red. Mrs. Colby would treat his skin with an A & D ointment to relieve the irritation. He further suffered stomach pains, pain and weakness in both legs and difficulty breathing.

Mrs. Colby often talked to other employees' wives at affairs they would attend about the conditions at the plant and they too would agree that they were having the same problems.

Mr. Colby was seen by Dr. Rowland Goodman on July 29, 1986 and January 9, 1990.
He was admitted to the Riverview Hospital on April 5, 1981; July 10, 1983; February 1, 1989 and March 7, 1989. He was admitted to Sloan Kettering in March of 1989.
He was treated by Drs. Richard Commentucci, Luria, and Boyle as well as all the doctors and nurses listed in the hospital records.

His medical bills were paid through his Local and Mrs. Colby's insurance company.

His funeral bill amounted to $4,662.07

Mr. Colby worked helping his wife in and around the house, did all the painting, carpentry, plumbing and small repairs, did all the yard work and took care of all the finances. He did some auto maintenance work.

He helped support his son, Lawrence, who is agoraphobic, with his medical bills in the approximately sum of $387 per month and assisted him in coping with this problem since age 16. He further financially supported his daughter, Monica, with her education.

Mrs. Colby receives pension benefits of $495 per month which began after the date of his death. She further receives the sum of $300 a month for life insurance which will end in 1994.

Mr. Colby's son was seen by Dr. Furey Lerro of Red Bank, a psychiatrist for about one year during and after his death at the cost of $125 per hour. Monica also was under psychiatric care for approximately 1 year after the death of her father and Mrs. Colby has been under the care of Dr. Susan Rhee for a period of 5 years at the rate of $125 per hour. These costs are only partially covered by her medical plan.