

SEP 1957
RECEIVED
Los Angeles
Ch. Dept.

Since 1943 the patient has been employed by the Armstrong Cork Company in Los Angeles. He has worked in various buildings, hotels, restaurants, steam plants, etc., throughout Los Angeles County, doing steam pipe installation in boiler rooms. He also worked with "diatrack block" (fiber glass) and did refrigerator insulation work (polyurethane installation). He has worked with asbestos (15-85% magnesia), cork, Raylo (silica) and foam glass, but does not believe he ever used diatomaceous earth. The patient stated there was always considerable dust and fumes from the above materials, the degree varying in the different areas he worked. No mask or respirator was worn at this job and the patient had been off work since December 4, 1956.

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The Travelers Insurance Company
Re: E. O. McCarrell

February 21, 1957

Onset and course of present illness: While at work on November 14, 1956, the patient started to cough and "choked" on some "diatrack block" dust after taking a deep breath. This was followed by an attack of coughing. He stated this had occurred three or four times within the past year but that following the last exposure the cough seemed to be worse and he consulted his family physician, Dr. Kennicott, for examination and advice. Chest x-rays were taken at The Hospital of the Good Samaritan and reported as showing "scar tissue on the lungs, or fibrosis." The patient was studied by Dr. Motley on November 28, 1956, and a copy of his findings is enclosed. Mr. McCarrell was advised by Dr. Kennicott to avoid dust exposure and strenuous work.

The patient stated that he rarely had a cold although two months previously he had a head cold with increased cough but no fever. He was given some cough syrup which did not help.

Chief complaints:

(1) Fatigability for the previous six months.

(2) Shortness of breath which came on gradually about six months ago. The dyspnea was noticed especially on exertion such as climbing stairs but did not bother him when he walked or drove his car and did not occur after meals or at night. For the same length of time he has noticed difficulty in taking a deep breath.

(3) Cough which had been present for six or eight months but was more noticeable during the past month. The cough occurred at any time and was aggravated especially by exertion or deep breathing. It was usually non-productive but occasionally after hard coughing, the patient raised approximately one teaspoonful of clear, white sputum. There had been no hemoptysis or broncholiths. * Mr. McCarrell added that he first noticed this cough when he "choked" on some Raylo dust over one year ago. Then he had no further trouble until six or eight months ago.

(4) Dull pain in the mid chest for the past six months which was aggravated by deep breathing and exertion.

Review of systems failed to reveal any other symptoms. The patient's weight had been stationary around 195 pounds for the past two years and he denied having fever, sweats, or chills. Review of the eyes, ears, nose and throat, gastro-intestinal and genito-urinary systems was entirely negative.

Past medical history: Measles and chicken pox at the age of 39, both of average severity. The patient denied having other illnesses in the past except for a head cold about once a year with occasional "pleurisy" pains in the shoulders. Surgery: Repair of left hernia in 1946; hemorrhoidectomy in 1954 or 1955, both operations performed at The Hospital of the Good Samaritan.



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Family history: The patient's father was living and well at 81 years. His mother died of unknown cause at 41. One brother and four sisters were living and well. One brother died in infancy of pneumonia. The patient was married and had no children. There was no family history of tuberculosis, cancer, diabetes, or heart trouble.

Habits: The patient sleeps well eight hours at night. He does not smoke or drink and was taking no medications.

Physical examination: Height 6 feet. Weight 200 1/2 pounds. Blood pressure 100/68. The patient was well developed and nourished, not acutely ill, but he had a dry cough whenever he took a deep breath. Head and scalp - negative. Ears - negative. Eyes - negative except for slight arcus senilis. Nose - slight discharge present. Teeth and gums - negative. Tonsils - three plus enlarged and cryptic, not infected. Pharynx - negative. Neck - nodes negative, questionable distention of jugular veins. Thyroid - negative. Heart - tones distant, regular sinus rhythm, not enlarged or displaced. P₂ equalled A₂. No murmurs. Chest: There was slight kyphosis (1+), increased a-p diameter, and slight lag. Breath sounds were diminished with harsh inspiration and prolonged expiration. There was moderately impaired resonance and a few fine rales present throughout both bases anteriorly and posteriorly. Abdomen - no tenderness, masses, rigidity, or scars. Spleen - negative. Liver - palpable at the costal margin. Extremities - no clubbing, cyanosis or edema.

Chest fluoroscopy: The diaphragm moved 3 cms. There was diffuse linear fibrosis throughout both lower lung fields.

Laboratory work performed in our office is as follows:

12-7-56. Skin tests: Intermediate tuberculin - one plus positive.
Coccidioidin - negative. Histoplasmin - one plus positive.

12-14-56. Sputum specimen: Wet mount for asbestos bodies: One group of structures characteristic of asbestos bodies were seen in the centrifuged sediment. Flocculation-concentration for acid-fast bacilli: Negative.
Culture for *M. tuberculosis*: Negative.

12-28-56. Sputum specimen: Examination for asbestosis bodies: The sputum was divided and a portion digested with sodium hydroxide, a portion with sodium hypochlorite following by centrifugation. There is a scattering of long, slender refractory fibres 4 - 10 mic. in diameter and varying in length from 1/2 to 2 times the low power microscopic field. A number of small amber amorphous bodies are seen. No structures characteristic of asbestosis bodies were seen in any of the preparations.

12-17-56. Complement-fixation tests for histoplasmosis: Negative



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A copy of my interpretation of the chest films is enclosed.

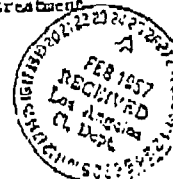
Diagnosis: (1) Pulmonary fibrosis due chiefly to the inhalation of asbestos dust. However, the effects of inhalation of fiber glass and other materials such as magnesite, silica, and foam glass can not be completely discounted. Nevertheless, the x-ray films are more characteristic of asbestosis than any other single disease. The coarse, ground-glass appearance and the localization of the fibrosis in the lower portion of each lung are quite characteristic of asbestosis. The recovery of asbestos bodies in the specimen dated 12-14-56 is also confirmatory of asbestosis. (2) Cor pulmonale with right ventricular hypertrophy. (3) Primary subcutaneous infection.

Disability: Please refer to Dr. H. L. Motley's pulmonary function report dated November 28, 1956. You will note that these studies indicated very little abnormality in ventilation but showed a significant reduction in the arterial oxygen saturation after mild exercise. There was also evidence of pulmonary fibrosis preventing a normal oxygen uptake during mild exercise. This indicates that Mr. McCarrell has difficulty increasing his cardiac output and pulmonary blood flow at the time of exercise. These two abnormal measurements, i.e., hypoxia during exercise and decreased exercise oxygen uptake, indicate that Mr. McCarrell should not be compelled to climb stairs, ladders, or engage in physical exertion of a comparable nature, because as Dr. Motley points out, mild exercise brings on acute hypoxia and increases the load on the right heart. Therefore, Mr. McCarrell is disabled for the type of work he has been doing for the past several years. It is our belief that if he is forced to continue doing this type of work, he will eventually develop right heart failure and become a cardio-pulmonary cripple. Therefore, I have advised him to seek treatment of his pulmonary condition. If this is successful, he might eventually be able to do light sedentary work for which he would have to be trained. At the present time Mr. McCarrell is totally disabled for the work that he has been doing. There is very little chance that this disability will improve unless the patient receives any unusually favorable response to the therapy to be recommended later. Without treatment the probabilities are that his disability will become more severe.

Prognosis: In general the outlook for pulmonary fibrosis of this type is not good. The disease tends to be progressive as has been observed in this case. However, the use of positive pressure breathing and steroid therapy are too new to say that Mr. McCarrell's pulmonary condition can not be improved.

Recommendations: Mr. McCarrell should be given a trial of intermittent positive pressure breathing in an effort to overcome the contractive fibrosis which one sees in his x-rays. You will note that this man's total lung capacity has already been reduced and the tendency in all types of pulmonary fibrosis is for the contractive process to increase so that eventually the bellows action of the lungs is greatly restricted.

The use of steroid therapy has achieved some success in the treatment



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of certain types of pulmonary fibrosis, particularly berylliosis. This type of therapy is too new and has been used in so few cases of asbestosis that I know of no reported series in the medical literature. Nevertheless, the results in berylliosis and other types of fibrosis are very encouraging. If steroid therapy is to be used, it should be used cautiously and under medical supervision, recognizing that this man has a positive tuberculin test and that steroid therapy sometimes causes an exacerbation of tuberculosis, especially if anti-tuberculosis drugs are not used along with the steroid medication. Other side effects of steroid therapy must also be counteracted such as the tendency towards retention of sodium and the excretion of potassium. Nevertheless, steroid therapy and intermittent positive pressure breathing therapy offer the only real hope of arresting this man's pulmonary disease and perhaps bringing about some improvement.

> Relationship of insured's condition to his occupation: This man has had
> no significant industrial dust exposure except in the course of his work in
> various types of insulation work since 1940. He has never done wining,
> quarrying, or worked in ceramics or in the processing of silica, diatomaceous
> earth, etc. There is no known exposure to beryllium. He has had significant
> exposure to several varieties of insulation, particularly asbestos, silica,
> and foam and fiber glass. The x-ray films are quite characteristic of
> pulmonary fibrosis due to asbestosis. They are not characteristic of berylliosis,
> diatomaceous earth pneumoconiosis, or silicosis. The clinical findings
> are not those of bronchiectasis nor of chronic passive congestion due to left
> heart failure. In my opinion, Mr. McCarrell has pulmonary fibrosis of occupa-
> tional origin. This fibrosis can best be attributed to asbestos although
>> one can not say that other inhaled substances such as silica or fiber glass
>> have not been significant factors. I believe his pulmonary disease is
>> occupational in origin.

Very truly yours,

Reginald H. Smart, M.D.

RES:lv
Encs.



REGINALD H. SMART, M.D.
 JOSEPH P. BOYLE, M.D.
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 LOS ANGELES 17
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September 19, 1957

Mr. William T. Hays
 Attorney at Law
 6331 Hollywood Boulevard
 Los Angeles 28, California

RE: James Whitcomb Riley

Dear Mr. Hays:

The following report is sent to you at the request of Mr. James W. Riley whom we first examined on June 27, 1957 with regard to his pulmonary condition. The following history and findings were obtained:

Residence History: Mr. Riley was born in Joplin, Missouri on October 23, 1899. He has lived in the Los Angeles area since 1903 with the following excursions: In 1918 he was briefly in Quantico, Virginia. From 1936 to 1942 he lived in San Francisco. In 1947 he was in Fresno, California for two months. In 1952 he worked in Dalmia, Indiana for six months. In 1955 he was in Santa Maria, California for four months and in Las Vegas, Nevada for four months. In 1956 his work required a seven month stay in San Diego, California.

Occupational history: Since 1919 Mr. Riley has been employed in the heat insulation industry, his work requiring the application of insulating materials to boilers, steam pipes and other structures requiring insulation. The insulating materials which he has worked with include asbestos, block, Detroit block, Kals rockwool, fiber glass, cork and Mono block. He believes he may also have worked with diatomaceous earth occasionally as a loose powder to be applied against boilers to provide a porous material which will allow for expansion and contraction of the boiler due to temperature changes. The other materials mentioned above are supplied in various forms such as blocks, lined cylinders, sheets, and blankets. Very often it was necessary to cut the blocks or sheets using a hand saw. It was also necessary to hammer nails through this material to secure it in its proper location. Since this work was often done in confined spaces such as boiler rooms, a high dust concentration was frequently attained in poorly

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ventilated areas. Occasionally Mr. Riley wore a mask when the dust concentration became uncomfortable.

Onset and course of present illness: Mr. Riley considered himself to be in good health until 3 1/2 years ago when he first became aware of shortness of breath upon exertion which has slowly progressed. At present he feels short of breath when walking rapidly on the level or when walking up an incline. Approximately three years ago, he became aware of cough which has persisted to the present and is productive of 2 to 3 teaspoons of mucoid sputum daily. There has not been hemoptysis, edema, orthopnea or paroxysmal nocturnal dyspnea. He has not been aware of fever. For the past several months, he has noticed minimal intermittent left lower anterior chest pain which is not related to exercise, rest, meals or position. It usually disappears spontaneously 1 to 2 hours after onset. Weight loss of approximately 20 pounds has occurred during the past 12 months.

Mr. Riley first became aware of a definite pulmonary abnormality when he was recalled by the Los Angeles City Health Department after having had a routine chest film in May, 1957. Further examinations were made including x-ray and sputum tests. A letter from Dr. Morris J. Schiff dated July 15, 1957 indicates that sputum examinations on 6-10-57 and 6-21-57 revealed acid-fast bacilli in the smear of the concentrated specimen. The tuberculin skin test reaction was positive. The diagnosis was indicated to be far advanced, pulmonary tuberculosis, active. It was thought that pulmonary actinosis might be present. Mr. Riley was next examined by Dr. Dean S. Scofield of Los Angeles whose conclusion on his report of July 17, 1957 was that Mr. Riley had pulmonary tuberculosis, right, moderate, with cavitation.

Chief complaints: 1) Shortness of breath with exertion, progressive since onset 3 1/2 years ago. 2) Persistent cough for 3 years, productive of 2 to 3 teaspoons of mucoid sputum daily. 3) Weight loss of approximately 20 pounds during the past year.

Inventory of systems: No other symptoms were elicited by systematic questioning.

Past medical history: During childhood Mr. Riley had had measles, mumps, chicken pox, whooping cough and scarlet fever. None of these were severe and there were no complications. A varicocle was removed in 1919.

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Family history: Mr. Riley's mother died at age 74 of unknown cause. His father died at age 73 of a heart attack. He has one brother and two sisters who are living and well. His wife and three children are living and in good health. There is no familial history of tuberculosis, diabetes, cancer or hypertension.

Habits: Mr. Riley smokes one package of cigarettes daily and uses alcoholic beverages to a moderate extent but takes no regular medications.

Physical examination: Mr. Riley was seen to be a thin well-developed white male who appeared chronically ill. His height was 69 1/4 inches; weight, 119 pounds; temperature, 98.6 degrees; pulse, 80 per minute; respirations, 20 per minute; and blood pressure, 122/70. Examination of the chest revealed moderate increase in the antero-posterior diameter of the chest. Both pulmonary bases lagged with deep inspiration. There was increased muscle tension over the right upper posterior chest. The lungs were hyperresonant to percussion over the upper lobes and there was diminished resonance at both bases. Breath sounds were bronchovesicular over the upper two-thirds and bronchial over the bases. Fine crepitant and crackling rales were present at all bases, anteriorly, posteriorly and laterally. The point of maximum cardiac impulse was just to the left of the midclavicular process. No thrill was palpable. A sinus mechanism prevailed and the heart tones were distinct at the apex and distant at the base. No murmurs were heard and the pulmonary second sound was slightly louder than the aortic second sound. There was erythema and induration of approximately 2 cm. diameter on the right forearm which Mr. Riley stated was the residual of a recently administered skin test. The remainder of physical findings were all within the range of normal.

Fluoroscopic examination of the chest: An infiltration with possible cavitation was noted in the right apex and subapex. Linear fibrosis was present in the lower half of both lungs. The diaphragms moved approximately 3 to 4 cm. and equally. In the lateral projection they were noted to be flat. Although the heart was not totally enlarged, the right ventricle appeared prominent in the left anterior oblique projection.

Laboratory evaluation:

6-27-57 - Blood count: Hgb, 92% or 13.5 gms, WBC 9,500. Platelets average. Differential - Eo, 4, Fmn, 54, Seg, 50, Lymph, 39, Mono, 7. Morphology normal. Hematocrit 46 mm. in one hour. Sedimentation rate (Wintrobe) 31 mm. in one hour. Corrected 27 mm. in one hour.

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6-27-57 - Urinalysis: Morning, straw, clear, specific gravity, 1.011. Negative for albumin and sugar. Microscopic - 0 to 1 white blood cell per high power field. Small amount mucus. Rare epithelial. Few bacteria.

6-27-57 - Intradermal skin tests: Coccidioidin - negative. Histoplasmin - negative.

7-2-57 - (Clinical Laboratory of C. Richard Smith, M.D.) - Sputum specimen, 3 cc. mucoid material: Wetmount for asbestos bodies: Negative. There is one large mass of elastic tissue showing alveolar formation. There are hyaline - glassy - straight fibres 3-9 microns in diameter and 1/8 - 1/2 of an oil immersion field in length. They resist the action of acid. Flotation-concentration for acid-fast bacilli: Negative. GRAM STAIN shows large numbers of gram positive cocci in clusters and in chains; gram positive diplococci and large gram positive rods. There are degenerated pus cells and a few epithelial cells. Acid-fast stain on the elastic tissue revealed no acid-fast bacilli although some of the material was lost in transfer.

7-2-57 - Sputum specimen 3 cc. mucoid material (Clinical Laboratory of C. Richard Smith, M.D.): Supplementary report on studies for asbestosis bodies. The remaining sodium hydroxide sediment was treated with chlorox and centrifuged at high speed. The resultant sediment and wetmount revealed three completely characteristic asbestosis bodies. These bodies give the Prussian blue stain reaction.

7-2-57 - 3 day sputum and gastric contents 40 cc. cloudy fluid containing approximately 20 cc. mucopurulent (Clinical Laboratory of C. Richard Smith, M.D.): Culture for M. tuberculosis - several hundred photochromogenic colonies of acid fast bacilli (We do not believe these are M. tuberculosis). They are similar to a myco-bacterium capable of causing human disease. The guinea pig results will help to clarify the identification. Meanwhile other tests will be carried out. Guinea pig inoculation for M. tuberculosis: Negative. (See attached letter)

7-2-57 - Culture from gastric-sputum specimen: Screening Sensitivity test: Streptomycin - 99 8/10% of the organisms are sensitive (2/10% are resistant) to 10 mcg. of streptomycin per ml. Para-aminosalicylic acid: 100 per cent of the organisms are resistant to 10 mcg. of para-aminosalicylic acid per ml. Isoniazid: 93 per cent of the organisms are sensitive (5 per cent are resistant) to 1 mcg. of isoniazid per ml.

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7-10-37 - (Clinical Laboratory of C. Richard Smith, M.D.) 72 hr. sputum specimen 25 cc. sero-mucopurulent: Flotation-concentration for acid-fast bacilli: 2 plus positive (20 to slide). Culture for M. tuberculosis: Several hundred colonies of photochromogenic acid-fast bacilli. These are not M. tuberculosis but they are characteristic of a myco-bacterium capable of causing human disease.

Diagnosis: 1) Pulmonary fibrosis exhibiting the principal features of asbestosis although contributing effects from the inhalation of silica, magnesium, fiberglass, foamglass, rockwool, and possibly diatomaceous earth must be considered. 2) Pulmonary emphysema of mild to moderate severity and secondary to pulmonary fibrosis. 3) Pulmonary inflammatory disease involving the apex and subapex of the right lung. Preliminary studies indicate that this process is due to a non-tuberculous photochromogenic acid-fast bacillus which may produce a disease quite similar to tuberculosis in its clinical manifestations and chronicity.

Degree of disability: Mr. Riley is permanently and totally disabled for the type of work which he has done since 1919. At present he is totally disabled for any type of physical activity pending control of the pulmonary inflammatory disease.

Prognosis: Pulmonary fibrosis of this type tends to be progressive while dust exposure continues, as the serial chest x-rays have demonstrated in this case. Progression is also apt to occur in the presence of superimposed chronic pulmonary inflammatory disease. Adequate treatment of the infectious process with modern drugs may modify the fibrotic reaction, but the nature and degree of this influence is not predictable owing to the relatively short period that this form of treatment has been used in the presence of combined pulmonary disease.

Recommendations for treatment: Mr. Riley requires sanatorium care with bedrest and appropriate chemotherapy. Preliminary studies by Dr. C. Richard Smith's laboratory indicate that Streptomycin and Isoniazid are the most effective of the drugs tested for the treatment of the inflammatory disease. Physical examination and x-ray study of the chest at periodic intervals will be necessary to evaluate the response of the inflammatory disease and to detect any progression of fibrosis. Complete pulmonary function studies should be repeated at approximately one year. In the event progression of fibrosis is demonstrated, consideration of more

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September 19, 1957

aggressive therapy such as intermittent positive pressure breathing and steroid medication may be necessary provided the inflammatory disease is under sufficient control to permit such therapy.

Relationship of patient's condition to employment: Mr. Riley's occupation for the last 35 years has been confined to the application of heat insulation materials. There has been no other source of industrial dust exposure. The x-ray films show pulmonary fibrosis of a pattern which is more suggestive of asbestosis than any other single entity. Asbestos bodies have been recovered from the sputum. There is no clinical evidence of bronchiectasis nor of chronic passive congestion of the lungs due to left ventricular failure. In my opinion, Mr. Riley has pulmonary fibrosis of occupational origin. The presence of pulmonary fibrosis may have been a significant factor in the development of pulmonary inflammatory disease and its subsequent course.

If I may amplify or clarify any of the preceding statements, it will be my privilege to do so.

Yours very truly,

John K. Shirey
John K. Shirey, M. D.

JKStark
Encs.