

BERYLLIUM DISEASE FROM THE CERAMIC INDUSTRY

Report of a Case

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THE PATIENT, a white woman, married, nulliparous, was 23 years of age at the onset of her illness. No personal or family history of allergy could be elicited. Cough and dyspnea first developed in March 1948. Beryllium disease was suspected prior to a short period during which she was observed at Saranac Lake, N. Y. At Saranac Lake careful investigation revealed that she had been exposed to beryllium some five months previously, for a period of approximately two hours. During this exposure her duties consisted in smoothing off the surface of beryllium oxide beads used for television insulators, which previously had been fired in an oven in a starch matrix. She did this work over a ventilated grille with a down-draft, but, being nearsighted, she brought the material close to her face and away from the grille. No one among a dozen other employees doing the same work has shown any evidence of beryllium disease.

Five months after exposure she began to notice increasing paroxysmal cough, dyspnea, non-specific pain in the chest and anorexia and showed a weight loss of 22 lb. (10 Kg.). She was admitted to the Ellis Hospital, Schenectady, N. Y., on April 19, 1948. Physical examination revealed dullness over the right side of the chest posteriorly, harsh breath sounds and crackling rales bilaterally. Pronounced tachycardia was noted. The sputum was negative for *Mycobacterium tuberculosis* and *Monilia* and showed only a mixed bacterial flora. The results of a complete blood count were normal. The results of a urinalysis were normal. A chest roentgenogram revealed extensive infiltration of both lung fields, consistent with chronic granulomatosis of the lungs.

Penicillin and supportive therapy were given without appreciable benefit, and the patient was discharged on May 15, 1948, unimproved. She required continuous oxygen therapy at home.

On April 25, 1949 a second admission became necessary because of a severe infection of the upper respiratory tract, with cough, dyspnea and pain in the chest. The weight was 90 lb. (41 Kg.) and the appetite fair. The menses were said to have ceased in October 1948. Physical examination showed an emaciated cyanotic, dyspneic patient with palpable postcervical lymph nodes, atrophic breasts and shallow chest expansion. There was no dullness over the chest. Inspiration was crepitant; expiration was accompanied with rales. There was no enlargement of the heart or murmurs. Tachycardia was present. There was tenderness in the upper right quadrant of the abdomen. The liver revealed 1 fingerbreadth of enlargement. The patient's fingers were cyanotic and club-shaped.

The red blood cell count was 4,500,000; the hemoglobin content, 75 to 95 per cent. The white cell count was 9,100, with 73 per cent segmented cells, 26 per cent lymphocytes and 1 per cent eosinophils. The erythrocyte sedimentation rate was 16 mm. in one hour. The packed cell volume was 41 per cent. Serum calcium was 6.6 to 9.6 mg. per 100 cc. Total serum protein was 5.8 Gm. per 100 cc., with albumin 3.3 Gm. and globulin 2.5 Gm. Alkaline phosphatase was 5 King-Armstrong units.

The urine had a specific gravity of 1.015 and revealed no albumin or sugar and no sediment.

From April to August streptomycin, and from July to September aureomycin, was administered, with no beneficial effect.

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