

ARTHRODESIS IN TUBERCULOSIS OF HIP-JOINT 45

Summary.

1. Eleven cases are described in which the operation of arthrodesis of the hip has been performed.
2. In most of the cases the disease was of long standing—average duration over six years.
3. The operation is not justifiable in young children.
4. Both intra- and extra-articular arthrodesis should be done at the same time wherever possible.
5. Firm bony ankylosis in good position was obtained in ten cases.

I should like to acknowledge my indebtedness to Mr. T. P. McMurray, who performed most of the operations, for his kindly help and criticism.

A CASE OF ASBESTOSIS OF THE LUNGS

By PAIGE ARNOLD,

M.D., B.S.,

Radiologist, Royal Infirmary, Sunderland,

J. R. BEAL,

M.D., D.P.H.,

Clinical Tuberculosis Officer, Sunderland,

AND

H. A. COOKSON,

M.D., CH.B., F.R.C.P.E., F.R.C.S.E., D.P.H.,

Pathologist, Royal Infirmary, Sunderland.

THE relative longevity of asbestos cases is due to the well-known fact that pulmonary tuberculosis as a complicating factor occurs in a much smaller proportion of cases than in silicosis, and then only late in the disease as a rule. Wood and Gloyne (1934), dealing with a series of 100 cases, found twenty-one with active tuberculosis; and the same authors (1931), in a previous smaller series of fifty-seven cases, found, out of ten cases complicated by tuberculosis, that nine were in young females in whom there is normally a high incidence of pulmonary tuberculosis.

The case now described presented certain clinical and pathological points of interest, which perhaps excuse its addition to the now rather large number of reported examples.

CASE.—J. K., male, aged 44 years. This patient was first seen in August, 1936, when he was sent to one of us for investigation because of the possibility of his suffering from pulmonary tuberculosis.

He stated that he had had a cough since 1927 (nine years), which was becoming progressively worse and was associated with profuse expectoration. An increasing dyspnoea had recently become marked enough to appear on the slightest exertion, as on climbing stairs. For nine years he had been subject to recurrent attacks of pleuritic pain over the lower part of the left chest. In the twelve months before coming under observation he had lost 11 pounds in weight. There was no history of hæmoptysis or night sweats.

His previous medical history was unimportant except for "stomach trouble" that led to a period of hospital treatment in 1933, and for varicose ulceration of the right leg in 1935.

Occupational History.—The patient ceased work on account of chest trouble in April, 1931. For seventeen years—i.e., since 1914—he had been employed in a chemical works handling asbestos. His particular work was to cut the asbestos into blocks, feed the crusher and pack into sacks. This type of work is one of the dustiest processes associated with asbestos manufacture. At no time did he use a respirator.

Clinical Examination.—The patient was well nourished. The chest was of an emphysematous type and expansion was markedly diminished. There was apical retraction, but the apices descended during inspiration and ascended during expiration. This was probably due to normal apices and diaphragmatic adhesions. The percussion note was impaired over the lower half of the chest posteriorly, more marked on the right side, and there was some increase of paravertebral dullness. The breath sounds were diminished over the lungs, but this was most noticeable over the bases. Crepitations were heard at the bases of both lungs, but most markedly at the left base. Clubbing of the fingers was pronounced.

Sputum examination was negative for tubercle bacilli on two occasions.

Radiological Examination (August 7, 1936) (Fig. 1) showed fibrosis in the middle and lower zones of both lungs, with numerous discrete nodules. The heart outline was indefinite, with increased density of the hilar shadows. There was enlargement of the broncho-pulmonary glands. No evidence of tuberculous infection was observed, and the opinion was given that the condition was one of pneumoconiosis of asbestosis type.

He was next seen eighteen months later. At this time the cough was much worse and dyspnoea was extreme. He had now obviously lost weight and was having profuse night sweats. The signs over the lungs posteriorly were unchanged, but at both apices the percussion note was impaired and

PLATE V



FIG. 1.



FIG. 2.

[To face page 46.]

PLATE VI



FIG. 3.



FIG. 4.

(To follow Plate V.)

showers of fine crepitations were heard. Cyanosis was present. The sputum now showed tubercle bacilli to be present, and also asbestos bodies; the latter were found in considerable numbers, and often radially arranged (Fig. 2).

A further radiograph (March 4, 1938) (Fig. 3) showed consolidative changes now present in the right upper and middle zones in addition to the previous appearances. A diagnosis of pulmonary tuberculosis supervening upon pulmonary asbestosis was therefore established in this case. The patient progressively deteriorated and he died of heart failure seven weeks later.

The following is a synopsis of the post-mortem examination made on April 13, 1938:

External Examination.—The body was that of a middle-aged man. There was general oedema and very little subcutaneous fat. On the medial side of the right leg, at the junction of the lower and middle third, there was a varicose ulcer. There were no marks of injury. The teeth were scanty and carious.

Internal Examination.—The air passages showed some chronic bronchitis. There was about 10 to 12 ounces of clear fluid in each pleural cavity. Both pleuræ were greatly thickened, especially over the lower lobes and at the right apex. There were numerous and strong adhesions binding the lungs to the diaphragm. Both lungs showed very gross interstitial fibrosis with thickening of the interlobar septa. The right lung showed some tuberculous changes at the apex with a small cavity. There were also scattered tuberculous deposits in the left lung. In both lungs the deposits were relatively small and recent, with fibrosis mainly, and especially incident upon the lower lobes. Sections of lung showed asbestosis bodies (Fig. 4). There was excess of fluid in the pericardial sac. The right side of the heart was dilated and hypertrophied. The aorta and coronary vessels showed patchy degenerative changes. There was an area of fibrosis on the anterior wall of the left ventricle. The cardiac muscle showed toxic changes. The valves of the heart were not diseased. There was some free fluid in the abdomen. There were no tuberculous glands or other tuberculous lesions present. The stomach and intestines were healthy except for the duodenum, which showed some degree of duodenitis, chronic and acute. No ulcer was seen. The liver showed chronic venous congestion and a fine fibrosis. The spleen was somewhat enlarged and showed fibrosis. The bladder, prostate and testes were not diseased. The kidneys showed toxic nephritis, but no chronic changes were observed. The skull and scalp were healthy and uninjured. There was slight thickening of the pia arachnoid membrane and the basal vessels were degenerate.

Summary.

Clinically this patient was of interest, inasmuch as he was seen originally for an opinion concerning tuberculosis of the lungs. A diagnosis of occupational fibrosis was made at this time, but eighteen months later clear evidence of progressive pulmonary tuberculosis was also found. There was clinically a history of "stomach trouble" for some years, no doubt related to a duodenitis found at necropsy.

In regard to the significance of asbestos bodies in the diagnosis of asbestosis, Stewart and others (1932) regarded radially arranged bodies, as found in this patient, to be pathognomonic of the disease. Apart from this the mere finding of asbestos bodies cannot so be regarded.

REFERENCES

- STEWART, M. J., TATTERSALL, N., AND HADDOW, A. C.: *Journ. Path. and Bact.*, 1932, **xxxv**, 737.
 WOOD, W. B., AND GLOYNE, S. R.: *Lancet*, 1934, **ii**, 1383.
 WOOD, W. B., AND GLOYNE, S. R.: *Lancet*, 1931, **ii**, 954.

THE SPERO INDUSTRIES

THE provision of suitable employment for the tuberculous has been, and always will be, a difficult problem, owing to their limited capacity for work and the tendency of the disease to become active after periods of apparently complete arrest.

The fact that tuberculous patients could work under careful supervision was proved long ago by Marcus Paterson, who used graduated exercises as a definite therapeutic measure based on the theory of auto-inoculation. These exercises were prescribed with a totally different object from the occupational therapy with which they are often confused. The latter were devised for their psychological value, and from them have developed the industrial colonies such as Papworth and Preston Hall. The self-confidence which patients regain through occupational therapy in finding that they are still of some economic value and can produce marketable goods is most gratifying, and very often turns a morbid introspective man into a hopeful enthusiastic worker, which change reflects itself in a general improvement of his physical condition.

All schemes for training patients in suitable occupations at sanatoria are naturally very limited by the short duration of stay and only a comparatively few persons can be accommodated in colonies; therefore it has

