

TUBERCULOSIS TRANSMITTED BY BANKED BONE

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The use of banked bone is becoming general; there are few published reports of complications. At many hospitals an adequate supply of bone has proved difficult to obtain, and the use of ribs removed at thoracoplasty for pulmonary tuberculosis has become common. Theoretically it has seemed a safe procedure and Hausmann (1951) and Marsh and Barton (1952) have supported this after examination of rib marrow. Hausmann examined ribs from sixty-nine thoracoplasty stages by direct smear of rib marrow, and by culture of rib marrow and surface cultures: in all cases these were negative. Marsh and Barton examined the marrow from ribs on sixty-six specimens by direct smear and culture, and again in all cases there was no evidence of acid-fast bacilli.

During the last year ribs from thoracoplasties performed in cases of pulmonary tuberculosis have been stored in the bone bank. The ribs have been frozen at -15 degrees Centigrade to -20 degrees Centigrade in a solution containing penicillin and streptomycin. They have been used in a wide variety of orthopaedic procedures. In the last months four tuberculous abscesses have been discovered. After removal of the infected bone chips and curettage, the wounds have healed without further incident; it is, however, possible that further manifestations may appear. This unfortunate sequel makes it obvious that such material is unsuitable for bone graft.

CASE REPORTS

Case 1—First and second stage spine fusion for scoliosis. Two weeks later the wound broke down. Two months after the first stage pleurisy developed, with a swinging temperature for three weeks. An enlarged axillary gland appeared and biopsy of this showed tuberculosis. Sequestrectomy and curettage of the wound followed by primary suture led to healing. Direct smear and culture from the wound confirmed tuberculosis. Streptomycin and isonicotinic hydrazide were given for three months.

Case 2—One-stage fusion for scoliosis. Some weeks after operation two small sinuses developed; these persisted, and four months after operation curettage was performed. Each sinus led into a short track containing caseous material, but no dead or exposed bone was found. The caseous material was confirmed as tuberculous by culture and histological examination. Both sinuses healed immediately without chemotherapy.

Comment—There were several common donors for Case 2 and the second stage of Case 1.

Case 3—First stage fusion for scoliosis. The wound became infected (clinically an infected haematoma); the collection was drained. Ten weeks later the wound was still draining and an enlarged axillary gland was found. Acid-fast bacilli were found in the wound. Sequestrectomy was performed and primary suture carried out. The wound has almost healed in two weeks. Streptomycin and isonicotinic hydrazide have been given.

Case 4—One-stage fusion of eight vertebrae. The wound healed by primary intention but three months after the operation a small sinus appeared; this remained small. Six months after operation sequestrectomy was performed, a few granulations were removed and two small bone chips which were lying loose were picked out. The wound healed immediately after the operation. Section of the granulation tissue showed typical tuberculosis. There were at no time any general symptoms or signs.

REFERENCES

- HAUSMANN, P. F. (1951): Ribs from Thoracoplasty as a Possible Source of Homogenous Bone Grafts. *American Review of Tuberculosis*, **63**, 210.
MARSH, K., and BARTON, G. E. (1952): Examination of Rib Bone-Marrow for Tubercle Bacilli. *Lancet*, **ii**, 1,059.