LEADING ARTICLE

MANAGEMENT OF OPEN TIBIAL FRACTURES

Y P Low

SING MED J. 1988; 29:5

Open tibial fractures are common injuries. They are often caused by road traffic accidents. The victims are usually economically active and physically fit young men. Most of them are motorcyclists.

Open tibial fractures are potentially dangerous. They may be lethal or crippling. The complications are well-known: loss of the leg, chronic osteomyelitis, non-union, malunion, shortening and stiffness of joints are some of them.

Early and effective treatment based on sound judgement and surgical principles help to reduce the incidence of the above dreaded complications.

Modern medical technology and medical metallurgy have enlarged the armamentarium of the orthopaedic surgeon. He has at his disposal a dazzling array of metallic implants and instruments which are touted by their advocates to give excellent results for fractures. This may be so. But basic but sound surgical principles must be observed.

The principles are well-known but they bear repeating. First, the open wound must be so treated that the fracture is converted to a closed one. It means a thorough and ruthless wound debridement and excision. If there is any doubt at all as to the cleanliness of the wound, it should be left open and implants should be avoided. An external fixator should then be applied for the treatment of the damaged soft tissues. Definitive procedures like bone fixation and bone grafting may be done when infection is absent or overcome.

If metallic implants must be inserted, use the minimum allowed. Bacteria sequestered among the implants are difficult if impossible to eradicate.

Grading of the severity of these fractures as proposed by Gustilo and Anderson is of practical value. First, it is a good prognostic index. Second, and more importantly, it points to the correct line of management.

It is not far-fetched to say that the initial treatment determines the fate of the damaged leg. Inadequate wound toilet and excision and over-exuberance with the inordinately time-consuming application of metallic implants in the face of gross soft tissue contamination and damage are ingredients of disaster.

The authors' experience and results confirm the value of the Gustilo and Anderson classification in prognosticating the outcome of the open fractures in general and open tibial fractures in particular. In the presence of severe open tibial fractures with gross soft tissue injury, we have to ask ourselves whether it is better to amputate the leg or the risk the patient's job or life by performing heroic salvage surgery.

The surgeon's judgement is very important at the outset. He has often only one bite at the cherry.

Department of Orthopaedic Surgery
Toa Payoh Hospital
Toa Payoh Rise
Singapore 1129

Low Yin Peng, MBBS, FRCS, Head