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Case Report

A Case Study of Periprosthetic Femur Fracture and Internal Fixation

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Abstract

Periprosthetic fractures are considered fractures which are associated with an orthopaedic implant. The World wide incidence of Periprosthtic fractures are increasing due to increased number of primary joint arthoplasties and other revision surgeries. Periprosthetic femoral fracture can be classified as intraoperative & post-operative fracture. The intraoperative periprosthetic fractures usually occur during the insertion of the femoral stem, often preceded by an area of increased cortical thickness, But acetabular involvement is uncommon.

Keywords: Periprosthetic facture; Proximal end of fracture; Right hip joint; Plate screw X-ray

1. Epidemiology

Periprosthetic fractures have been estimated to range from 0.1% to 3.2% for primary uncemented total hip arthoplasties & from 3% to 12% for division surgeries irrespective of cemented or not. Depending on fixation method variation, the incidence of intra-operative fracture has been reported.

2. Causes

Periprosthetic femur fracture is most often occurs due to fall. It can also be caused by a higher energy force (such as-motor vehicle collision). Also in patients with muscle weakness, osteoporosis fracture may occur.

3. Case Study

Li Zhuxian, 78 years old, Chinese woman, got admitted in the hospital with Complain of pain, swelling and restricted movement in the right lower limb for about 8 hours. The patient stated that she fall down from the bed carelessly in the morning, after that she was suffering from the pain, swelling, restricted movement also Dark coloration of skin on the affected site. Then she got admitted to orthopedic hospital. A plain X-ray of right hip & knee joint was done. X-ray film shows a Periprosthetic fracture on the proximal part of right hip bone and a fracture in the distal part of the right hip bone. The swelling of the middle part of right greater brittleness was obvious which can touch the obvious sense of bone friction. The percussion pain and tenderness of the right knee joint were positive. Right knee joint movement was limited, movement of the ankle & toes were good. Physical examination showed, shortening of right lower limb & the limb was internally rotated, swelling in the middle part of right thigh, the obvious sense of bone friction can be felt. Percussion tenderness positive on right knee joint & obvious sense of bone loss and right knee joint movement was limited. All the peripheral pulses of lower limb were intact, motor and sensory activities were good.

Figure 1: Plain X-ray of right hip joint showing fracture of proximal end of femur.

Figure 2: Plain X-ray of right hip joint showing fracture of proximal end of femur.

Figure 3: Preoperative period of screw setting.

Figure 4: After repair the plate screw X-ray.

4. Conclusion

Most cases of periprosthetic hip fracture require surgery. Treatment outcome depend upon-amount of force involved in the injury also upon the quality &strength of the bone around the implant. Although treatment of periprosthetic femur fracture is often challenging as patients are usually older & may have other medical conditions.

Ethics

The patient kindly improved her informed consent at the time of hospital admission to the publication of personal data.

Conflicts of Interest

No potential conflict of interest relevant to this article was reported. The authors do not declare any conflict of interest.

Contribution of Authors

All authors contributed equally and have read and approved the final version of the manuscript.

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