

Surgical Revival of Complications of Fractures of The Trochanterian Mass: Experience of The Traumatology Department 2

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Abstract: Fractures of the trochanteric mass, considered to be fractures in the elderly, are of equal interest to young people. Their codified treatment does not spare complications which require a recovery. The objective of this work is to study the radio-clinical results of these types of interventions, to identify the causes of mechanical failures of osteosyntheses with a view to preventing them then to evaluate the evolution of the management of these complications.

Keywords: Trochanteric fracture, Pertrochanteric fracture, osteosynthesis, gamma nail, DHS, mechanical complications, hip arthroplasty

Introduction:

Fractures of the upper extremity of the femur constitute a real public health challenge. It is a fracture which involves the upper end of the femur between the two trochanters.

The risk factors for these fractures are mainly age, osteoporosis, female gender and secondarily vision disorders, balance and walking disorders, lower limb dysfunction and decreased strength. muscle measured at the calf. The therapeutic objectives are to prevent complications of decubitus by early mobilization with a resumption of weight-bearing, by restoring the previous autonomy as best as possible, while being as less aggressive as possible, at a lower cost and as quickly as possible [1].

Complications may be linked to mechanical failure (unraveling, fracture of the material, sweeping of the cervical screw, etc.), non-union (aseptic or septic), malunion, technical error, secondary displacement of the fracture, poor initial indication, secondary osteonecrosis or the development of coxarthrosis[2;3].

Patient and Methods:

This is a single-center study carried out in the Traumatology 2 department of the CHU HASSAN II in Fez. We selected 39 cases of complications, i.e. 15% of 255 patients with a pertrochanteric fracture who underwent osteosynthesis from 2021 to 2023. The data was analyzed by the EPI INFO software.

Results:

We collected 39 cases, or 15%, of complications of surgical treatment out of 255 cases of pertrochanteric fracture for a period spanning between January 2021 and December 2023.

Only 27 out of the 39, or 10.58%, benefited from surgical revision. The female gender was in the majority with 64.10%. Defects were associated in 56.41%. The average age was 60.03 years with extremes between 19 and 86 years. The Direct mechanism of low energy type falling from height was reported in 72.8% of cases. The left side was operated on the most with 58.9% of cases compared to 41.1% for the right side. Other associated lesions were encountered in 1.17% of cases.

81.15% were autonomous before the trauma according to the Parker score. Osteoporosis was found in 53.8% of cases. The fracture was classified as unstable in 79.5% of cases; 53.85% were Ender type 6 and 61.54% were classified A2 according to AO. The initial surgical treatment was essentially osteosynthesis in 99% including 89.2% of cases with Gamma nail compared to 1% of initial THA in a patient with coxarthrosis before the trauma. The time between trauma and primary osteosynthesis is 7 days.Reduction on the orthopedic table was considered satisfactory in 90% of cases with good position of the implants in 77% of cases. Weight bearing in the first week was respected in 56.4%. The average length of hospitalization was 4 days. Our series was characterized by the

occurrence of intraoperative complications in 6 patients or 2.35%, they were dominated by diaphyseal fracture in 1.96% of cases. Post-operative complications of primary osteosynthesis were distributed between 1.96% cases of sepsis, 12 cases of death or 4.7% including 1 following Covid 19 disease.

Secondary complications were then found in 5 cases, i.e. 1.96%, of gluteal bedsores, and one case of deep vein thrombosis, i.e. 0.39%. As late complications, there were 2 cases of pseudarthrosis, or 0.78%. And the mechanical complications: found in 10 cases or 3.91%, distributed between 5 cases of scanning of the cervical screw, 2 cases of hardware fracture, 1 case of dismantling of the blocking screw and 2 cases of diaphyseal fracture on nail . The average time between primary osteosynthesis and surgical revision was 5 months, or between 1 month and 3 years. The average duration of return hospitalization was 8 days with an extreme of 1-24 days. Spinal anesthesia was performed in 82.05% of cases, while 43.4% of patients were classified as ASA1. Management of complications consisted of: a VY advancement flap (2 cases) for advanced bedsores, trimming for early sepsis (1 case); removal of the material with debridement for late sepsis (4 cases), with placement of an external fixator for non-union diaphyseal focus on a bifocal fracture (1 case); removal of hardware for fracture of hardware on consolidated fracture (3 cases) and for removal of locking screws (1 case); replacement with a long gamma nail indicated for diaphyseal nail fracture (4 cases) and for hardware fracture with pseudarthrosis (1 case).



Hardware fracture on a non-union fracture



Hardware fracture on a consolidated varus fracture



Dismantling of the locking screw and reduction failure

The intraoperative difficulty of the revisions consisted of the removal of the fractured material and the reaming of the femoral shaft during placement of the prosthesis. Weight-bearing was delayed in 4 patients (hemiplegic or polytraumatized patient or non-autonomous before trauma).

The average time to consolidation was 89 days. The average duration of the revision operation time was 1 hour 45 minutes, or between 1 hour 15 minutes and 3 hours as extremes. We noted 4 cases of intraoperative transfusion. In 2 patients a second revision was necessary, respectively a total hip arthroplasty for aseptic osteonecrosis of the femoral head, i.e. 3.7% of cases, and a plate blade for a pseudarthrosis, i.e. 3.7% of cases. 3.7% of patients improved their PMA score after recovery. No tertiary complications were noted within the limits of our study.



Double Mobility PTH cemented after an ONTF

Discussion:

The low percentage of complications in conservative management of trochanteric fractures as well as the good progress in the management of rare complications were reported by several authors. In several studies the average age is around 60 years old. Scanning the cervical screw was the most common indication for revision. The functional results after revision were significantly improved with an excellent PMA score[4 ;5 ;6 ;7].

The literature attests to the complexity of the management of complications, which can be avoided by a good preoperative indication, a good choice of osteosynthesis material, by a rigorous surgical technique and the correct use of the ancillary and the implant. These complications are directly linked to the surgeon even if certain factors linked to the terrain or untimely stress on the implant are more difficult to control[8 ;9]. Tailored management of complications, depending on the osteoarticular condition and the local condition, makes it possible to improve the functional score and improve the vital prognosis; even if the death rate remains high compared to healthy subjects of the same age[10].

Conclusion :

This study confirms the rarity of complications of first-line conservative treatment of trochanteric fractures. Even if the management of complications can be complex, the right indication for recovery guarantees good progress far after the acute episode.

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