Supplementary cerclage wiring during intramedullary nailing of the femur

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INTRODUCTION

Cerclage wiring of the femur has been utilized in the past as treatment of femoral fractures. It lost its appeal, nevertheless, since technique included considerable periosteal stripping and soft tissue dissection, which raised the risk of delayed union and bone necrosis. Femoral fractures repaired with intramedullary nails (IMN) that have butterfly fragment, oblique, or spiral morphology may benefit from additional cerclage wiring done using minimally invasive procedures to enhance interfragmentary contact and ensure osteosynthesis.

REPORT

A 46yo man presented following a road traffic accident sustaining a comminuted segmental fracture of right the right femur. During IMN, there was marked displacement of the medial and lateral middle segment of fracture fragments leading to poor bony contact. Through small 1cm incisions, several cerclage wires were fastened to hold together fracture fragments and achieve better interfragmentary contact.

DISCUSSION

IMN of comminuted femoral shaft fractures comes with unique set of challenges. Often there are fragments which are markedly displaced with poor contact between fracture fragments. Sometimes, preliminary reduction could not be achieved or maintained with closed methods to pass a guidewire through the medullary canal requiring mini open reduction techniques using bone hooks, reduction clamps or cerclage wires. Caution must be observed to avoid perishing blood supply due to excessive soft tissue dissection and periosteal stripping.

CONCLUSION

Cerclage wire augmentation is a useful technique to use when dealing with comminuted femoral shaft fractures, especially those with large fragments or massively displaced. In an instance where removal became necessary, these supplementary cerclage wires are additional hardware that could be difficult to extract especially those covered in bony overgrowth or had snapped.

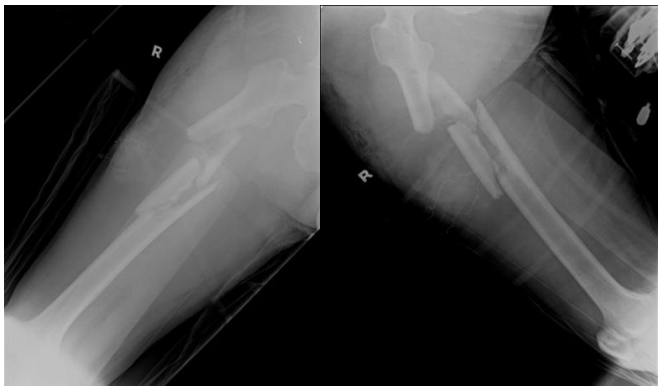

Figure 1. Trauma x-rays of the right femur showing comminuted fracture with large & displaced fragments.

Figure 2. Post operative x-rays of the right femur.

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