International Orthopaedics (SICOT) (2011) 35:783–784
DOI 10.1007/s00264-011-1238-2

LETTER TO THE EDITOR

Cerclage cable in fracture: frustration or necessity?

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Received: 2 February 2011 / Accepted: 19 February 2011 / Published online: 8 March 2011

Dear Editor,

I have read the article "The benefit of wire cerclage stabilisation of the medial hinge in intramedullary nailing for the treatment of subtrochanteric femoral fractures: a biomechanical study" with the great interest [1]. In their article, the authors argue that osteosynthesis frequently fails and a higher rate of nonunion is found in the subtrochanteric region of the femur. As I understand from their article, this nonunion is due to fracture distraction (commonly seen after intramedullary nailing) in the subtrochanteric region, and they believe that supporting the medial column with cerclage wiring can resolve this problem [1]. They concluded that "a mini-open approach to difficult fractures could be helpful in reducing the fracture with a clamp and is sometimes essential. An additional cerclage in oblique subtrochanteric fractures is a good option to ensure the reposition and cortical medial support if appropriate and to decrease osteosynthesis failure and rates of non-unions".

We would like to thank the authors for their invaluable study but do not agree with them. Yes, subtrochanteric fracture of the femur is a very problematic region for orthopaedic surgeons due to the particular anatomical features including high Ratio of cortical bone and to cancellous bone compared to other skeletal regions. These features result in low blood supply which means low union rates compared to other parts of the body. But higher nonunion does not mean more than 10%, but rather means higher compared to the intertrochanteric region. We work at a university hospital and we have faced many nonunions in our clinic, which is why we want to share our experience with cables. Cerclage cable inhibits fracture union in two ways (Fig. 1): (1) it prevents formation of callus and (2) it inhibits local blood supply. Cable is not implantable for transverse fractures and comminuted fractures, as it can only be performed to oblique or spiral fractures. The authors stated that reduction is important and this can be achieved with cable. Most angulation is due to improper nail insertion, and if technical guidelines are followed this problem can be minimised. Intramedullary fixation has biological and biomechanical advantages, but the operation is technically demanding. Gradual learning and great patience is needed in order to make this method truly minimally invasive. Long PFN, long gamma nail or Russell Taylor nail are reliable implants for subtrochanteric fractures, leading to high rates of bone union and minimal soft tissue damage [2]. If angulation still persists, a simple AO screw will suffice. The authors state that if you use clamp for reduction, you can insert a cable [1]. Technically, if you use a clamp, you do not need to cut or devitalize the surrounding tissue. That is why blood supply is not damaged. But if you use cable you need to dissect more tissue. For simple, well-reduced fractures the choice of implant is not critical. If subtrochanteric fractures are unstable (e.g., comminution, segmental bone loss, long spiral), the choice of implant is critical and should be restricted to implants that allow minimal fracture site motion (long gamma and Russell-Taylor) instead of short PFN [3].

In conclusion, in our experience along with other authors, higher union in the subtrochanteric region can

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Fig. 1 Cable failure and subtrochanteric nonunion

be achieved with the last generation intramedullary nail with good technique. Using cable may improve anatomical reduction, but one should not forget that an extra implant may increase operation time, cost, bleeding and nonunion.

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