

MEETINGS ROUNDUP³⁶⁰



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Orthopaedic Trauma Association Annual Meeting – October 2012

■ This year's annual gathering of the Orthopaedic Trauma Association took place in Minneapolis, USA set against the backdrop of the Mississippi, and the first few days of the perishing Minnesota winter. Quite a contrast for the 3000 or so orthopaedic traumatologists to the previous year's meeting in San Antonio, USA. This year, delegates faced the mid-west cold in place of the intense Texan heat.

The four days of the main meeting were prefaced by symposia on basic science, a residents' trauma 'boot camp' and short instructional courses on grant writing, a young practitioners' forum and a comprehensive course on trauma coding.

The Basic Science Focus forum was full of high quality research. Much of it was grant-funded and well conducted basic science or clinical research. The start of the meeting was a biomechanical symposium chaired by Emil Schemitsch and John Bechtold. This summarised the biomechanical evidence for almost every fracture. In most cases, the message seemed to be fairly clear. Good reduction and accurate placement of a plate or nail has a more profound effect on the stability of the construct than the choice of implant itself. In the free paper session, an interesting paper analysed the biomechanical properties of using a 4.0 cancellous 'bail-out screw' after the thread of a 3.5 screw has stripped. The authors effectively demonstrated that the 4.0 cancellous screw provides a biomechanically effective bailout.¹

In a lively symposium on venous thromboembolism, the difficulties of defining VTE and effective treatment options were discussed in a session chaired by Steven Olson and William Geerts. Free papers explored the possibility of predicting the risk of venous thromboembolism² and much of the discussion surrounded the difficulty of defining a clinically significant PE, with Dr Geerts highlighting the rate of false positives on CT-PA. Are we over-reliant on such scans? Are we placing our patients at excess risk of bleeding complications from over prescribing prophylaxis?

Hip fractures are always a focus for discussion at such meetings. The meeting featured two hip fracture symposia, one on 'Atypical Femur Fractures' in the Basic Science Session, and the centrepiece opening symposium of the main meeting, 'Improving Hip Fracture Care'. Both raised a large number of interesting topics.

The presentation of atypical femoral fractures and those associated with bisphosphonates continues to be a point for debate. The session chaired by Saam Morshed and Joseph Borrelli dealt with many issues surrounding bisphosphonate-associated fractures. The typical appearance of a transverse subtrochanteric or femoral shaft fracture associated with pre-operative cortical thickening and pain was revisited. The general feeling of the meeting was that pre-fracture (prophylactic) stabilisation remains

a difficult decision and a trial of non-weight bearing and discontinuation of the bisphosphonates may be appropriate. The operative management of complete subtrochanteric and shaft fractures was discussed, and slow union rates reported. However, 93% of fractures unite within one year.³ The advice was to adopt a 'watch and wait' approach in delayed union.

In the opening symposium of the main meeting, the focus was on improving care for hip fractures⁴ and this was supplemented by a number of free paper sessions throughout the meeting. The quality of presentations and research was extremely high. The main forum focussed on improvements in care through the use of a 'top down' approach. Professor Keith Willett (UK) described the profound effect of a 'payment by results' system implemented in the United Kingdom. The development of professional standards, supplemented by the addition of 'best practice' payments if these care standards are met for individual patients, resulted in a remarkable 15% reduction in the national 30-day mortality, together with an improvement in all other care indications. Overall, the initial financial investment resulted in a reduction in costs to the healthcare system. It seems that good care of hip fractures is cheaper in the long run! Dr Kjell Matre (Norway) gave a fascinating talk on the lessons learned from the Norwegian Hip Fracture registry, supplemented by a number of free papers. Dr Matre highlighted the results of 7643 patients treated for two-part intertrochanteric fractures with either a DHS or an intramedullary (IM) nail. These demonstrated a significant difference in re-operation rates with a 4.7% revision rate in the DHS group as compared with 7.1% in the IM nail group at three years of follow-up. This certainly stimulated debate in a mostly North American audience where the DHS is not commonly used.

The treatment of high energy hip fractures, a different injury to fragility fractures, was discussed at length.^{5,7} The most interesting debate concerned the application of proximal femoral locking plates. There were high rates of failure in older patients with this implant, with nonunion rates approaching 25% even in the young patient population. Perhaps the proximal femoral locking plate is not the successful option we had hoped for young patients.

Treatment of clavicular fractures continues to be an area of much controversy. Following the reopening of the operative treatment debate by a number of recent RCTs, the scientific community continues to grapple with which fractures to treat operatively, the best operative strategy, and how to minimise nonunion. A number of papers at the OTA this year have shed some light on this topic.⁸⁻¹⁰ The potential for subsequent displacement following the 'incidental' finding of a clavicular fracture on trauma CT, following high energy trauma, was highlighted: 60% of undisplaced or minimally displaced clavicular fractures following high

energy trauma will displace more than 100% within two weeks. Depending on which side of the 'clavicle fixation' line you stand, this information is enough to warrant a further check radiograph at two weeks; some in the audience even made the case for primary fixation in this situation. Only one outcome is certain to be worse with operative rather than nonoperative management: post-operative complications. The move to more aggressive operative management of clavicular fractures has resulted in a reconsideration of the rate of late complications. Surgeons in Toronto¹⁰ performed a retrospective review of over 150 cases in which 5% suffered a major complication and over a third required re-operation, mostly for symptomatic metal work. They found risk factors for further surgery to be straight plates and shorter patients, whilst the risk for nonunion included older patients, diabetics and those with recreational drug abuse problems.

Ankle injuries were also a topic in focus during the conference with a number of clinical controversies the subject of good research papers. Early full weight bearing has often been a controversial topic in post-surgical management of ankle fractures. A research paper from Edinburgh (UK)¹¹ examined the safety of early post-operative weight bearing. The authors excluded patients with syndesmotic injuries, neuropathy and diabetes but found very low rates of failure of fixation or loss of reduction. The use of syndesmosis screws for type C ankle fractures was also discussed.¹² Post-operative CT studies have emphasised that mal-reduction of the syndesmosis is more common than previously thought, and occurs in about a third of patients. An interesting study repeated the CT after removal of the syndesmotic screws and found that 50% of the patients with mal-reduction of the distal tibio-fibular joint had an improved reduction after screw removal. Many surgeons do not routinely remove syndesmotic screws but this approach may need to be revisited.

The issue of early fixation of fibular fractures associated with pilon fractures was also revisited. In a retrospective review¹³ of early versus delayed fixation, the research team identified a number of differences between the two groups. There was no difference in quality of articular reduction, alignment or union rates, however, there was a significant increase in complications in the early fibular fixation group. "Span, scan and plan" probably remains the safest approach.

As ever, the OTA was a stimulating and interesting meeting with much discussion, and was of much more scientific and clinical worth than can be summed up in such a short report. I would recommend you to join us all in Phoenix, USA.¹⁴

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