

Cement augmentation of bone defect in pathological humeral diaphyseal fracture treated with retrograde intramedullary nail

J Dhaliwal, A Seif, S Singh, A Sinha
Betsi Cadwaladr University Health Board, UK

CORRESPONDENCE TO

Jagwinder Dhaliwal, E: jagdhaliwal@hotmail.co.uk

BACKGROUND

Pathological fractures of long bones secondary to metastatic lesions are common.¹ Management of pathological humeral diaphyseal fractures with bone loss is challenging. Palliative internal fixation improves pain and quality of life.² We describe a simple technique to address bone loss of the distal humerus (Fig 1) using Palacos® bone cement (Heraeus, Wehrheim, Germany) following retrograde humeral internal fixation (Fig 2).



Figure 1 Lytic lesion in right humerus



Figure 2 Post-operative right humerus

TECHNIQUE

The patient was placed in a lateral position with the operative limb over an armrest. The posterior approach was taken to the elbow with an incision through the triceps aponeurosis down to the bone. A tumour involving soft tissue was debulked and curettage of the lesion performed. There was a 6cm bone defect involving the distal third of the humerus (Fig 3). The fracture was reduced and a retrograde Halder intramedullary nail (7mm x 270mm) introduced with distal locking screws.

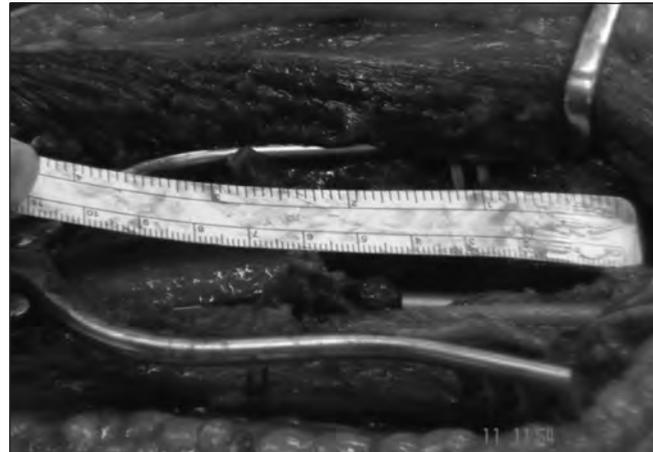


Figure 3 5cm bone defect in distal humerus

A 50ml syringe was cut using a saw to prepare a mould (Fig 4). One half of the syringe was placed posteriorly to the nail and prepared Palacos® cement was placed in the syringe and around the nail. The other half of the syringe was placed anteriorly to encase the nail and cement. The plastic syringe mould was removed on setting of the cement (Fig 5). The cement mantle bridged the entire bone defect (Fig 6). This was followed by closure in layers.

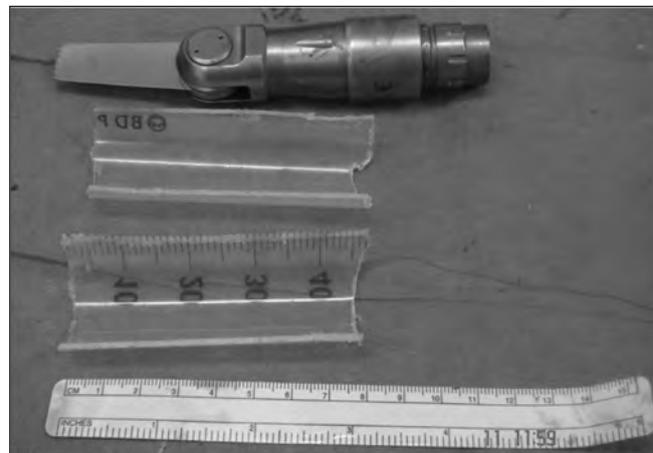


Figure 4 50ml syringe divided sagittally to relevant size

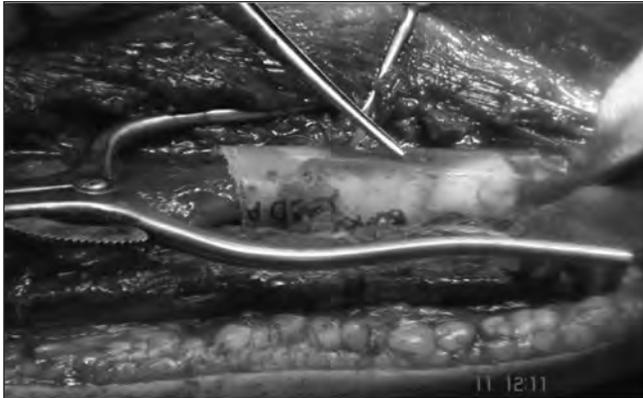


Figure 5 Intramedullary nail and cement enclosed by two halves of syringe

DISCUSSION

This technique enables a tube of smooth cement mantle to be created, surrounding the intramedullary nail at the site of the bone defect. The equipment and material necessary are readily available in most operating theatres.



Figure 6 A tube of smooth set cement surrounds intramedullary nail and bridges bone defect

References

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Laparoscopic enteropexy for prolapsing ileostomy

T Papettas, L Wong

University Hospital Coventry and Warwickshire NHS Trust, UK

CORRESPONDENCE TO

Trifonas Papettas, E: trifpapettas@hotmail.com

Stomal prolapse is a complication caused by invagination of proximal redundant bowel through the stoma. We describe a laparoscopic technique for repairing a prolapsing end ileostomy that confers the benefits of being minimally invasive and preserves the existing stoma site.

Three laparoscopic ports are inserted in the standard way: umbilical (12mm), left hypochondrial (12mm) and left iliac fossa (5mm). After laparoscopic inspection, the prolapsing small bowel is reduced appropriately and positioned against the abdominal wall to perform the enteropexy. The small bowel mesentery is then sutured to the abdominal wall using interrupted polypropylene. This method is effective and avoids the risks of fistula formation.

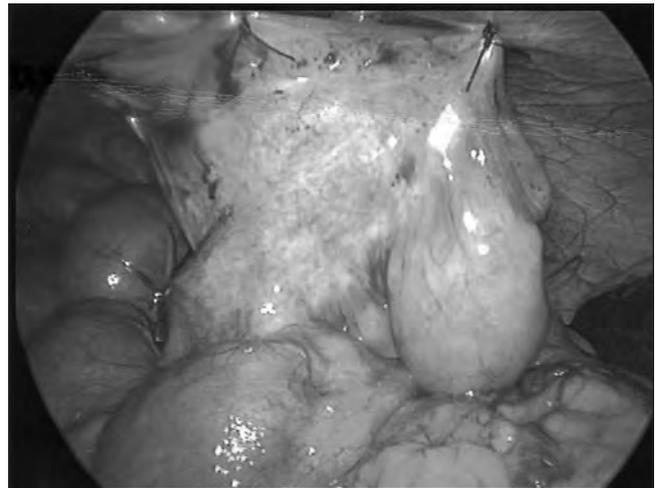


Figure 1 Enteropexy performed by suturing intussuscepting thickened small bowel mesentery to the abdominal wall