Technical Section [TECHNICAL NOTES AND TIPS

Single-incision distal biceps tendon repair using spinal retractors to achieve optimum exposure

D Burchette, A Avasthi, J Phadnis

Brighton and Sussex University Hospitals NHS Trust, Trauma and Orthopaedics, Brighton, UK

CORRESPONDENCE TO

Daniel Burchette, E: daniel@burchette.org.uk
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BACKGROUND

Achieving and maintaining adequate, safe exposure during single-incision distal biceps repair can be a challenge, particularly in well-muscled individuals. To maintain visualisation of the radial tuberosity, it is necessary to fully supinate the forearm and to place deep right-angled retractors rather than levered retractors to protect the posterior interosseous nerve.^{1,2} It can be difficult for the assistant to simultaneously maintain retraction and forearm supination and to operate accessory instruments, especially if the elbow must be flexed to reduce the tendon to the tuberosity. Consequent loss of visualisation may compromise safety and efficiency.

TECHNIQUE

The authors advocate the use of a cervical spine retractor as a solution to these issues (Fig 1). The retractor is modular, with a variety of blade length and width options to suit individual patient morphology. It has articulated arms, which maintain a low profile and do not interfere with other instruments. Controlled retraction is applied with a ratchet mechanism, which is easily released and reapplied when not working on the radial tuberosity, to avoid prolonged soft tissue traction.

Figure 1 Biceps retractor (© Joideep Phadnis)

DISCUSSION

The main advantage is that controlled, effective retraction is applied through all positions of elbow flexion while freeing the assistant to maintain supination and help with the procedure. The curved tips and ratchet mechanism prevent any loss of position or visualisation while the retractor is in use, which also makes training and supervision more straightforward.

To date, the senior author has used this technique in 15 cases and it now constitutes his standard practice. We have not seen any complications related to this method of retraction.

References

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Surgery for popliteal artery entrapment syndrome: use of an intraoperative tibial nerve stimulator and duplex ultrasound

G Dovell, RJ Hinchliffe

Bristol Centre for Surgical Research, School of Social and Community Medicine, Bristol, UK

CORRESPONDENCE TO

George Dovell, E: dovellg90@gmail.com
doi 10.1308/rcsann.2017.0099

BACKGROUND

Popliteal artery entrapment syndrome (PAES) is a rare cause of intermittent claudication in younger patients. Compression of the popliteal artery may be caused by a variety of anatomical abnormalities and physiological hypertrophy of the medial head of gastrocnemius. Surgery involves resection of the structures causing arterial compression using either a posterior or a medial approach to the popliteal fossa. However, intraoperatively it can be difficult to be certain the extent of resection needed. Failure to relieve compression effectively may account for a significant number of treatment failures.^{1,2} We describe a technique in which a tibial nerve stimulator and pedal Doppler assessment are used intraoperatively to guide effective surgical release.

TECHNIQUE

In most patients with PAES, distal blood flow is diminished with forced plantar flexion at the ankle. The tibial nerve is stimulated using a nerve stimulator (Fig 1). Doppler ultrasound documents normal flow in the pedal vessels. Application of an increasing electric current causes tetany and forced plantar flexion at the ankle. This mimics popliteal artery entrapment and results in a cessation of distal blood flow identified by

Figure 1 Tibial nerve stimulator.

pedal Doppler ultrasound. The tibial nerve stimulator can be used repeatedly during the operation to aid surgical resection. Surgery continues until provocation with the nerve stimulator no longer causes flow disturbance in the pedal vessels.

DISCUSSION

This technique is a relatively simple way of ensuring that the structures compressing the popliteal artery have been satisfactorily resected during surgery. Nerve stimulation is used routinely in anaesthesia without complication.³ Its application in this setting hypothetically reduces the need for a more extensive dissection or resection and potentially reduces the need for repeat surgery.

References

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A simple endoscopic method for removal of a knotted urethral catheter

B Rampersad

University of the West Indies, Trinidad and Tobago

CORRESPONDENCE TO

Barbara Rampersad, E: barbara.rampersad@sta.uwi.edu
doi 10.1308/rcsann.2017.0108

BACKGROUND

Small infant feeding tubes (5Fr and 6Fr) are commonly used in many institutions for catheterisation of neonates and infants. This is most likely because feeding tubes are cheaper, more flexible and more readily available than infant urinary catheters.¹ Spontaneous intravesicular knotting of a feeding tube used for urethral catheterisation is a rare but documented complication.² Removal of these intravesicular knots has been attempted in a number of ways such as use of a guidewire to

Figure 1 Cystoscope in knot of catheter

untangle the knot, use of excess lubrication and traction with or without anaesthetic, and open or endoscopic removal via cystostomy. This method of removal using a cystoscope has not been described previously.

TECHNIQUE

Our technique uses a well lubricated 7Fr cystoscope inserted urethrally alongside the feeding tube. Introduction of the cystoscope into the knot is possible as the knot is usually stuck at the bladder neck or posterior urethra. The knot is then further tightened by pulling on the distal end of the catheter. It is subsequently possible to remove the catheter on withdrawal of the cystoscope (Fig 1).

DISCUSSION

If standard methods of removal such as gentle traction or use of a guidewire are not successful in cases of a knotted catheter, this is a simple technique that can be employed. This method might avoid the use of more invasive procedures such as cystostomy.

References

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Use of sponge heel boots as a temporary splint for paediatric elbow supracondylar fractures

M Gandhi

Robert Jones and Agnes Hunt Orthopaedic Hospital NHS Foundation Trust, UK

CORRESPONDENCE TO

Maulik Gandhi, E: maulikgandhi@yahoo.co.uk
doi 10.1308/rcsann.2017.0118

Splints are not mentioned as initial management in the British Orthopaedic Association guidelines on supracondylar fractures of the humerus in children.¹ In order to minimise fracture movement (causing pain and/or worsening neurovascular function), plaster casts can be applied. Application is time consuming, and the casts can be challenging to remove and reapply (for x-rays or clinical reassessment) without causing distress to the child.