

Technical Section [TECHNICAL NOTES AND TIPS

A simple method of T-tube preparation for easy accommodation into a non-dilated biliary system

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doi 10.1308/rcsann.2020.0111

BACKGROUND

Worldwide, laparoscopic cholecystectomies are rapidly increasing, so are inadvertent iatrogenic bile duct injuries (IBDI).^{1,2} These devastating injuries mostly have non-dilated common bile duct (CBD),³ usually not more than 6mm in diameter.⁴ Hence, their immediate repairs are overtly demanding and often generate considerable perioperative anxiety. Nevertheless, primary choledochorrhaphy over a T-tube and timely referral to expertise may rescue both, the patient and the surgeon.¹ Here, a T-tube, as large as 14-Fr, is recommended considering future interventional radiological procedures.⁵ We describe a simple and effective technique of housing a 14-Fr T-tube in a non-dilated CBD.

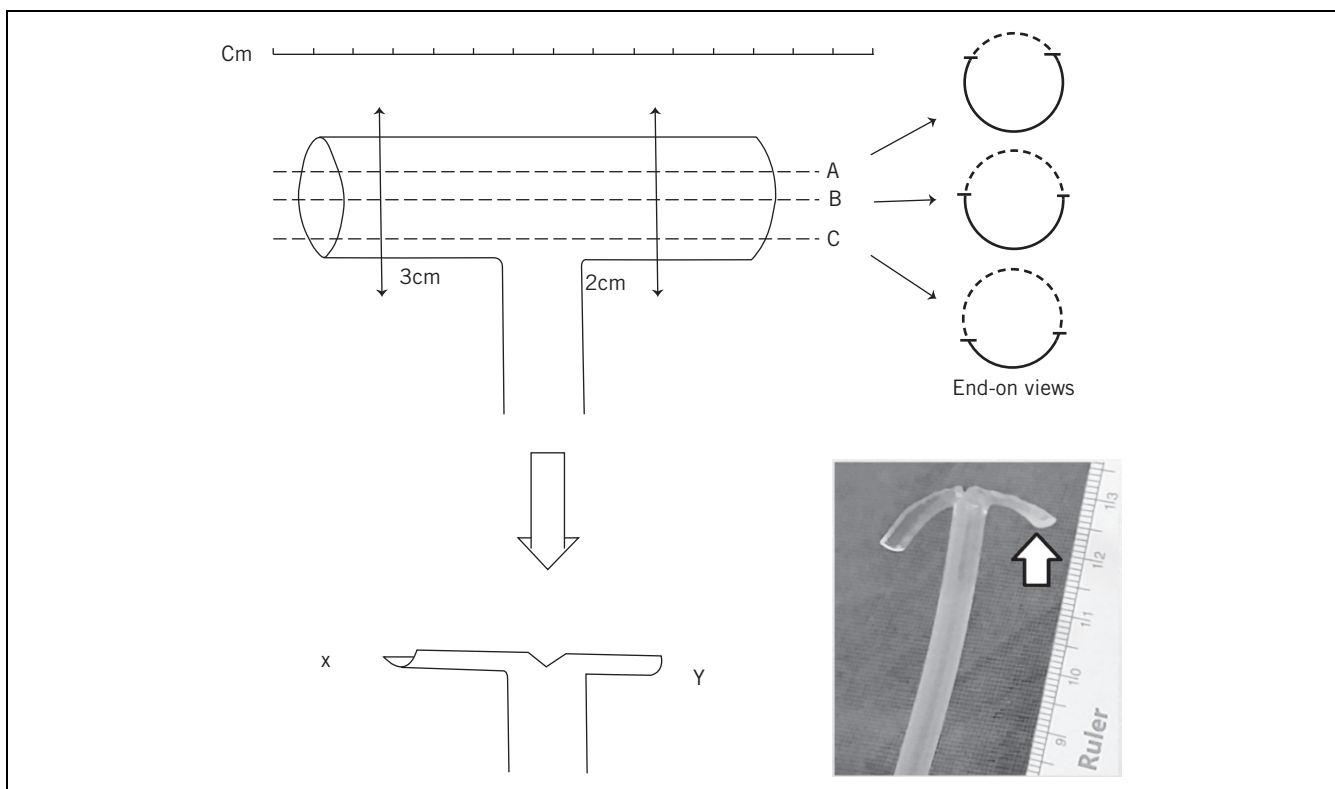


Figure 1 Preparation of 14-Fr T-tube. Note, the conventional excision methods (A and B) leave 50-60% circumference of the horizontal arm intact; such a bulky remnant is unlikely to fit into a non-dilated bile duct without almost completely occluding its lumen as well as the blood supply. Also, note that excision of about 80% circumference (C), as in our technique, strategically leaves just a strip of remnant (white arrow, inset) that is long enough to prevent extra-luminal dislodgement, short enough to abstain trans-luminal displacement towards hepatic ducts (X) or duodenum (Y), and wide enough to make it self-retaining without obstructing the bile duct.

TECHNIQUE

The T-tube's horizontal limb is reduced to 2cm (duodenal side) and 3cm (hepatic confluence side) on either side of the vertical limb. Then, about 80% of its back-wall circumference is excised with sharp scissors before making a small V-cut at the T-junction to complete the procedure (Fig 1).

DISCUSSION

Contrary to common practice of excising half the back-wall,⁵ our technical modification has several advantages. It satisfactorily splints a collapsed CBD without occluding the biliary outflow. While preserving the fundamental purpose to be self-retaining, its design prevents dislodgement and displacement.⁵ The severity of luminal foreign-body reaction and its associated morbidity decreases. It can be extracted easily and the resultant sinus track possesses adequate width for radiologic interventions postoperatively.⁵ Lastly, its learning curve is just two cases. We have successfully used it in five cases of IBDIs, hence propose it further for blunt/penetrating biliary trauma and liver transplant patients having non-dilated bile ducts to repair.

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A novel technique for Gravity Assisted Reduction of Ankle (GARA) fracture dislocations

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doi 10.1308/rcsann.2020.0176

BACKGROUND

Displaced ankle fractures need prompt manipulation for pain and soft tissue compromise. We describe a gravity assisted technique which successfully reverses the fracture displacement without the need for additional personnel or equipment.

TECHNIQUE

With adequate analgesia (opioids) and inhalation anaesthetics such as nitrous oxide + oxygen (Entonox, BOC Healthcare, Manchester, UK) or methoxyflurane (Penthrox Medical Developments International Limited, Victoria, Australia), the patient is encouraged to lie on the side opposite to the displacement, with the lower leg hanging off the end of the couch or propped up on firm supports (Figures 1 and 2). For the more common externally rotated lateral displacement, the patient lies comfortably supported with the injured side facing up. Similarly for posterior displacements, the patient is asked to lie prone. In a cooperative patient, the gravity assisted relocation of displacement is noted within about 5-10 minutes. Very gentle manipulation may be additionally utilised when a moulded plaster is applied without the need for an assistant. This technique has been successfully employed in many patients with Lauge-Hansen injury types:

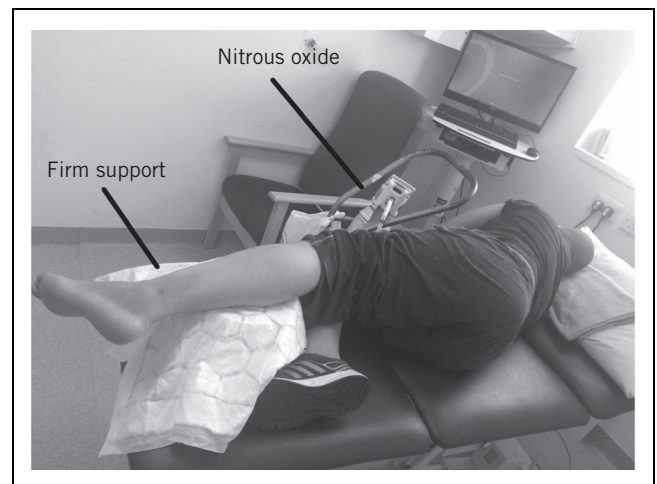


Figure 1 Lateral position of the patient



Figure 2 Lateral position of the leg-ankle reduction noted