and pars is compromised due to mismatch between the position of the skin incision and that of the cleavage plane.

TECHNIQUE

The cleavage plane location is different for L4, L5 and S1 (Figs 1–3). We measure the distance from the mid-line of the natural cleavage plane on magnetic resonance imaging (MRI) at each vertebral level, and use it to determine the correct location for skin incisions.

DISCUSSION

The Wiltse approach allows instrumented posterolateral fusion and decompression to be performed with minimal soft tissue trauma. By accurately identifying the natural cleavage plane between multifidus and longissimus, we have reduced postoperative morbidity. When using the Wiltse approach, we recommend using pre-operative MRI to plan the distance of skin incisions from the midline at each vertebral level.

References

1. Wiltse LL, Bateman JG, Hutchinson RH, Nelson WE. The paraspinal sacrospinalis-splitting approach to the lumbar spine. *J Bone Joint Surg Am* 1968; **50**: 919–26.
2. Olivier E, Beldame J, Ould Slimane M, Defives T, Duparc F. Comparison between one midline incision and two lateral incisions in the lumbar paraspinal approach by Wiltse: a cadaver study. *Surg Radiol Anat* 2006; **28**: 494–7.
3. Vialle R, Wicart P, Drain O, Dubousset J, Court C. The Wiltse paraspinal approach to the lumbar spine revisited: an anatomic study. *Clin Orthop Relat Res* 2006; **445**: 175–80.
4. Vialle R, Court C, Khouri N, Olivier E, Miladi L, Tassin JL *et al.* Anatomical study of the paraspinal approach to the lumbar spine. *Eur Spine J* 2005; **14**: 366–71.

A novel approach to oesophageal clot removal

C ABBOTT, AJ BOTHA
St Thomas's Hospital, London, UK

CORRESPONDENCE TO

C Abbott, St Thomas's Hospital, Westminsterbridge Road,
London SE1 9RT, UK. E: christopher.abbott@mac.com

BACKGROUND

We describe a novel technique for removal of intraluminal blood clots from a dilated oesophagus. This can be employed in cases where the endoscope's own suction channel is too narrow to remove large clots, preventing effective diagnosis and therapy (Figs 1 and 2). We also describe the placement of a three-way Foley catheter to prevent re-accumulation of the oesophageal clots.

TECHNIQUE

Under general anaesthetic, two 32-FG Robinson drains are passed orally (Fig. 3). Using repeated cycles of irrigation (with

Figure 1 Endoscopic view of the oesophagus before initial suction using the in-built suction channel.

Figure 2 Endoscopic view of the oesophagus after initial suction using the in-built suction channel. The ineffectiveness of this suction for removing such extensive clots is clearly apparent.

Figure 3 An external view of the patient showing the two Robinson drains *in situ*.

normal saline) then suction, the extensive oesophageal clot can be gradually broken apart and removed. To reduce the potential of subsequent clot formation, a three-way Foley catheter can be placed trans-nasally, creating a port for periodic irrigation and aspiration.

DISCUSSION

The technique described – repeated cycles of irrigation and suction – is a cheap, simple and effective way of removing large clots from an oesophagus to facilitate diagnostic and therapeutic endoscopy. The use of a three-way catheter to prevent clot re-formation is an established practice in bladder and prostate surgery. To date, we have used the technique successfully in two patients with this unusual problem; in the case shown here, subsequent endoscopy revealed a fresh oesophageal ulcer to be the source of the bleed.

A definitive technique for burying the knot following cancer resection

GREG McMAHON, ATUL BAGUL, FAHREYAR ALAM, ASHLEY DENNISON

Department of Hepatobiliary Surgery, Leicester General Hospital, Leicester, UK

CORRESPONDENCE TO

Greg McMahon, Department of General Surgery, Leicester General Hospital, Gwendolen Road, Leicester LE5 4PW, UK
E: gregmcmahon@hotmail.com

Figure 1 Loose 'chain' of three or four knots about 10 cm in length.

Figure 2 At least two knots pulled through the probe.

Figure 3 The probe is retrieved back through the corner of the closure, taking the suture and knot with it into the abdomen.

BACKGROUND

Disease recurrence is a major concern for patients who have undergone resection of intra-abdominal tumours. If not adequately buried, the bulky knot of synthetic suture in the abdominal closure can be indistinguishable from disease recurrence, aside from causing sustained local discomfort.