SURGICAL SAFETY UPDATE

Cases from the Confidential Reporting System for Surgery (CORESS)

Frank CT Smith
Programme Director on behalf of the CORESS Advisory Board
coress.org.uk

CORESS is an independent charity, supported by AXA Health, the MDU and the WPA Benevolent Foundation

Post-thyroidectomy haematoma

A 58-year-old male was investigated for prostatic hypertrophy and was listed for transurethral resection of the prostate, but was noted to have a large, toxic goitre and was referred to the endocrine team. Thyroidectomy was undertaken with placement of a suction drain. The list started late and the case was finished in the early evening.

The patient returned to the ward from recovery at around 10pm. On arrival on the ward some neck swelling was noted, but there was minimal blood in the suction drain bottle and vital signs were normal.

In the early hours of the morning ward staff were alerted when the patient activated his emergency alarm. A nurse attended to find the patient very distressed with a significantly swollen neck. An arrest call was put out and the resuscitation team attended. The anaesthetist was unable to visualise the vocal cords to insert an endotracheal tube, but was able to place a laryngeal mask airway and to oxygenate the patient.

The patient was rapidly returned to theatre, where the neck wound was re-opened and a large quantity of clot evacuated under general anaesthesia. A tracheostomy was undertaken. The patient was transferred to the ITU overnight.

Unfortunately, on being weaned off the ventilator, it became apparent on waking that he had suffered a neurological insult. A CT head scan subsequently confirmed the finding of a hypoxic brain injury, from which he did not recover.

Reporter's and CORESS comments

Postoperative haemorrhage after thyroidectomy occurs in 0.45–4.2% of patients, up to a quarter of whom may develop acute airways compromise. The Difficult Airway Society, the British Association of Endocrine and Thyroid Surgeons and the British Association of Otorhinolaryngology – Head and Neck Surgery have recently published guidelines on management of haematoma after thyroid surgery[1].

Ten recommendations have been made, including training all those who care for post-thyroidectomy patients to look out for signs of bleeding that may compromise the airway; presence of an emergency kit at the bedside of post-thyroidectomy patients, including during transfer; presence of front-of-neck airway equipment, including bougie, scalpel and tracheal tube on wards caring for these patients; development of a systematic approach to reopening the neck at the bedside, where necessary, to relieve the haematoma (SCOOP – skin exposure, cut sutures, open skin, open muscles (superficial and deep layers), pack wound).

The Advisory Board noted that a postoperative ward round might have picked up this complication earlier. In extremis, had a surgeon been called to examine the patient on the ward a decision might have been made to remove clips and decompress the haematoma on the ward rather than incur delay in transferring the patient back to theatre.

Missing drawing pin

During a complex total pelvic exenteration and sacral resection for recurrent rectal cancer, a drawing pin was placed in the patient's sacrum, within the abdomen, at the cranial limit of the sacral resection (S3), to enable radiological identification of the extent of resection. The patient underwent formation of colonic and ileal conduits, and was then placed prone for the sacrectomy. The sacrum was resected *en-bloc* with the tumor, large bowel, bladder and prostate. Flaps were raised and the defect closed.

Later it was discovered that the pin was not in the resection specimen. The pin had not been included in the instrument and swab count. A subsequent CT scan

Reference

-. Iliff -- , K. ---------- K, Ahmad I *et al.* Management of haematoma after th------: s-------- ----w and ---------- consensus guideline- --om the Difficult Air- -- ------, the British Association of Endocrine and Th--oid S------ and the British Association of ---------- -- ad and Neck S------ ---- ------- ---- ------95-

localised the pin and a second laparotomy was performed to remove this 48 hours later. The pathology report confirmed that an RO resection had been achieved and the patient was discharged on day six postoperatively.

Reporter's and CORESS comments

There was lack of communication between the surgeon and scrub staff. The drawing pin should have been included in the count. The surgeons should have told the scrub team that the pin was meant to come out with the specimen, while the scrub team thought it was intended to remain *in situ*.

In a long operation the scrub team changed twice. Better communications and a full handover might have reduced the risk of this incident occurring.

This was a complex case with various factors contributing to the adverse outcome, including failure to add the 'extra' kit – the drawing pin – to the count so that it was not counted in or out, and the need to turn the patient intraoperatively.

Adequate communication and discussion of use of the pin in a pre- or intraoperative brief might have prevented this outcome.

Inadvertent arterial cannulation with PICC line

A 28-year-old female with recurrent Crohn's disease was admitted with proximal small-bowel obstruction, vomiting and weight loss, with a BMI of 18 kg/m^2. It was decided that total parenteral nutrition (TPN) was needed to improve her nutrition and clinical chemistry before undertaking surgical resection of the affected bowel.

A peripherally inserted central catheter (PICC) line was placed for this purpose, using the right brachial vein and a chest radiograph was obtained to check position of the line.

The following morning the patient complained of a cold right hand and paraesthesia. No radial pulse could be palpated. A vascular opinion was asked for immediately, but there was a request for a Doppler ultrasound scan to be undertaken first. The Doppler scan took two hours to be performed.

The Doppler indicated that the catheter was lying in the brachial artery and thence had been fed into the arch of the aorta. The patient was taken to theatre, the catheter removed and brachial thrombectomy undertaken with vein patch closure.

The arterial supply was re-established and a further feeding line was placed approximately four to five hours after the injury was discovered.

The complex Crohn's disease was operated on three weeks later with a successful outcome. Her right hand remained warm with normal pulses and normal sensation.

Reporter's comments

The PICC line was inadvertently placed into the brachial artery, and the difference between arterial and venous blood was not recognised at the time of placement.

The nursing team did not recognise the issue and escalate this to the medical team. The vascular team did not see the patient until after the Doppler scan, although the clinical signs had suggested an arterial injury and ischaemia. This delayed correction of the problem of acute ischaemia by four hours and might have exacerbated any reperfusion injury, potentially even requiring forearm fasciotomies.

CORESS comments

In potential acute limb ischaemia the patient should undergo rapid clinical assessment by an appropriate clinician and then, if necessary, appropriate investigations can be obtained, (not vice versa). In this case, use of ultrasound to facilitate line placement would probably have averted incorrect line siting.

We are grateful to those who have provided the material for these reports.

The online reporting form is on our website, coress.org.uk, which also includes previous Feedback Reports.

Published cases will be acknowledged by a Certificate of Contribution, which may be included in the contributor's record of continuing professional development.

CORESS is an independent charity supported by AXA Health, the MDU and the WPA Benevolent Foundation.

coress
FOR A SAFER SURGICAL FUTURE