Royal College of Surgeons
ADVANCING SURGICAL CARE

CORESS is a confidential reporting system for surgery. The purpose of CORESS is to promote safety in surgical practice, both within the NHS and in the independent sector.

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coress feedback

Cases in this issue of CORESS Feedback illustrate the perils of undertaking procedures without prior reference to important information: essential investigations, multidisciplinary team (MDT) reports and previous operative records. Technical and procedural problems with bowel staplers and minitracheostomy are also discussed.

We are grateful to those who have provided the material for these reports. The online reporting form is on our website (www.coress.org.uk), which also includes all 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.

Inadequate preparation for emergency surgery (Ref 215)

As the vascular consultant on call, I was asked by the consultant covering the wards to undertake a femoral endarterectomy and femoropopliteal bypass for a diabetic patient with critical ischaemia and a gangrenous toe. The patient had been on the ward for several days while his international normalised ratio was corrected following excessive warfarinisation for atrial fibrillation. I saw the patient on the ward and completed the consent process, having discussed him with the ward consultant. Unfortunately, the ward-based picture archiving and communication system was down and I did not review the angiography.

While reviewing another patient in the emergency department, I was called to the emergency theatre to undertake the femoropopliteal bypass. When I got there, the patient had already been anaesthetised by the on-call anaesthetist. Prior to scrubbing, I called up the patient's angiograms on the theatre computer to find that the patient did indeed require the intended procedure but that he also had an extensive iliac stenosis. An earlier MDT report on the computer was not filed in the patient's notes but had commented on the fact that angioplasty and stenting of this lesion was indicated, possibly as part of a combined (hybrid) procedure. If the surgery alone was carried out, it was likely that this would fail because of poor inflow.

With the patient already asleep, I went to the radiology department, where fortunately the interventional radiologist had finished a case and reviewed the films. Another lucky break occurred in that the staff in the hybrid theatre had just finished their case. The surgeon using that theatre agreed to defer his next case and the radiologist agreed to undertake the necessary iliac stenting as a combined procedure with the femoropopliteal bypass. After a delay of 40 minutes, the patient was transferred from the emergency theatre to the hybrid theatre, where the combined stenting and surgery took place uneventfully.

Reporter's comments

This case was a serious untoward incident in which the patient would, under normal circumstances, have had to be awakened from anaesthesia because the correct procedure could not be undertaken. A series of events contributed to this adverse event (poor communication at handover, failure of ward-based imaging, absence of the MDT report in the notes, lack of presence of the surgeon at the 'sign-in' check) but the principal cause was my failure to review the necessary imaging before taking responsibility for the procedure. The 'time-out' check would not have prevented this as the imaging review check occurs after the patient has been anaesthetised.

A happy outcome only occurred because of the professionalism and teamwork of the on-call anaesthetist, the radiologist and the hybrid theatre team, all of whom adapted to the situation without fuss or complaint. I have learned a significant lesson from this. The operating surgeon *must* undertake scrupulous review of all relevant investigations and management plans prior to operating on a pooled list or on a patient who has been handed over in order to reduce risk to the patient (and the operator's liability).

CORESS comments

The CORESS Advisory Committee agreed with the reporter's comments.

No notes – incorrect procedure (Ref 59)

A patient with whom I had been involved for some years was brought to theatre for closure of a colostomy. She was accompanied by a set of temporary notes, which did not include records of previous surgery. She had been admitted on the day of surgery and completed the consent process with the registrar, who had not seen her previously and who accepted her account of the procedure to be undertaken. I realised that the notes were not present when I checked before the anaesthetic and requested them. I had to decide whether to proceed with the operation or send the patient back to the ward.

In the end, we undertook surgery and I closed what I had remembered was a loop colostomy by simple closure of the defect. I was very uneasy about this, and I told the nursing staff not to send the patient back to the ward until

the notes had arrived and I had seen them. Eventually, clinic letters were retrieved and printed off by the secretary. On review, it was clear that I had closed an end colostomy. The patient was immediately reanaesthetised and I undertook the previously planned bowel reanastomosis. Following surgery, I explained what had happened to the patient, who was fortunately very understanding.

Reporter's comments

Never undertake a procedure based on memory alone without review of the relevant clinical records and investigations. Do not succumb to the temptation to cut corners because of work pressures.

CORESS comments

This situation should never have been allowed to happen. All relevant information must be reviewed prior to undertaking any procedure. When an operation is being undertaken as a direct consequence of previous surgery, the previous operation records should be reviewed to aid planning of the current proposed intervention. Colorectal surgeons on the CORESS Advisory Committee emphasised the role of endoscopy if unsure of the anatomy of a stoma.

Too many guns... (Ref 217)

During a reversal of Hartmann's procedure, the rectum and sigmoid colon were found to be very narrow. Intraoperatively, both 25mm and 29mm circular staple guns were opened and checked to see where they would reach in the rectal stump. Further dissection allowed a 29mm gun (the preferred option) to reach near enough to the stump. A 29mm anvil was placed in the descending colon and an attempt to achieve an anastomosis was undertaken. The gun was placed rectally, the spike extended through the rectal stump and docked with the anvil. The gun tightened as expected but did not fire correctly. It then became apparent that the 25mm gun had been used in the attempt to connect to the 29mm anvil. A further attempt with the correct gun was successful.

Reporter's comments

A size mismatch between staple gun and anvil occurred when the wrong gun was used in error. The design of the gun for this device allows a size mismatch to occur – beware! Ideally, only one size of staple gun should be open and available at the operating table at any one time. A visual and verbal check should be undertaken to ensure matching components before the staple gun is fired to form an anastomosis.

CORESS comments

This report suggests a system error in which it was possible to unite two mismatched components. CORESS would like to learn if this has also happened to you. If a common occurrence, representation will be made through the Medicines and Healthcare products Regulatory Agency to alter the manufacturing process. Colour coding of device components for individual sizes is used for some devices although even this may not prevent similar occurrences. As per the reporter's comments, only one gun and its specific components should be available in the operative field.

Retained wound protector (Ref 218)

A self-retaining wound protector was used to hold a wound open during a colorectal operation. The surgeon made the incision slightly bigger and put his hand through the protector to perform a hand assisted anastomosis. When the patient became unwell a few days later, it was found that the wound protector had been retained in the abdomen. A second operation was required to remove it.

Reporter's comments

Wound protectors and other surgical items such as ports and gallbladder retrieval bags are often not included in the surgical count. When an incision is enlarged, the wound protector should be changed for a larger size. It is assumed that the protector slipped into the wound when the incision was enlarged and was retained under the abdominal wall when the surgeon removed his hand.

All disposable items should be included in the count. Just because it is assumed that it would not be possible for something to be retained, does not mean it could not happen.

CORESS comments

All disposable items used in the operative field should be counted in and out. Do you know what the policy is in your theatres… and is it enforced? Always check that the equipment being removed from the wound is intact and that components have not been left in situ.

Mini-tracheostomy complications (Ref 221)

An elderly woman had an uneventful right upper lobectomy for lung cancer. Five days following surgery, she began to develop respiratory failure secondary to retained secretions that she was unable to expectorate. A decision was made to insert a mini-tracheostomy tube under local anaesthesia to facilitate pulmonary toilet. The patient was in the intensive care unit (unintubated) and an anaesthetist administered midazolam sedation. During the insertion procedure, the guidewire became misplaced outside the airway and on insertion of the mini-tracheotomy tube and dilator, a significant arterial injury occurred. When the dilator was withdrawn, there was massive haemorrhage up the mini-tracheotomy tube, which could not be controlled. The patient lost in excess of 1,700ml of blood extremely rapidly and although she was transferred immediately to an operating theatre, where local control was achieved by emergency sternotomy, resuscitation was unsuccessful.

Reporter's comments

Poor technique was involved. The guidewire was not in the trachea before dilation began. The procedure was not

undertaken in or near an operating theatre in case of haemorrhage although this complication is thankfully rare.

National guidelines on indications for mini-tracheostomy usage and insertion are lacking. As a consequence of this incident, it is now our practice to introduce mini-tracheotomy tubes only in an anaesthetic room or operating theatre. The procedure is performed under general anaesthesia and commences with rigid bronchoscopy for bronchial toilet. The bronchoscope is then withdrawn to just below the level of the cords and the mini-tracheotomy tube is introduced into the airway with direct visualisation through the rigid bronchoscope to ensure correct placement of the tube.

CORESS comments

Mini-tracheostomy should be undertaken in a well lit operating theatre or anaesthetic room, with facilities and available personnel with expertise to intubate at hand. In many cases, general anaesthesia may not be initially feasible (sedation is usually contraindicated) and the procedure can be carried out under local anaesthesia by experienced staff. A key step in the procedure is to ensure that the Tuohy needle is in the trachea, with free aspiration of air, *prior* to insertion of the guidewire. The National Safety Standards for Invasive Procedures should be enforced for these procedures. If the patient is severely hypoxic and non-cooperative, it may be a wise alternative to intubate, ventilate and opt for early tracheostomy.