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coress Feedback

CONFIDENTIAL REPORTING SYSTEM IN SURGERY

This issue of *Feedback* has a central theme of misadventure incurred as a result of failure to inspect drugs prior to systemic administration. Systematic issues, such as storage of similar drugs next to each other or similar packaging of different drugs, may impact on frequency of occurrence of these events, but the bottom line is that it is the responsibility of the clinician who administers the drug to check that it is the correct drug, that it is in date and that concentration or dosage of drug is appropriate for the circumstances.

***ALWAYS, ALWAYS* check drugs before administration.**

As ever, we are grateful to the clinicians who have provided the material for these reports. The on-line reporting form is on our website **www.coress.org.uk** which also includes all previous Feedback Reports. Published contributions will be acknowledged by a "***Certificate of Contribution***" which may be included in the contributor's record of continuing professional development.

PERISHING PILES – PHENOL PROBLEM

(Ref: 85)

I undertook outpatient phenol sclerotherapy for symptomatic second degree haemorrhoids on a 58 year old lady. I use oily phenol 5% BP w/v, and injected 2-3ml at 4 sites into the submucosal area at the base of each pile, above the dentate line. On this occasion, I was passed the phenol already prepared in a syringe. I didn't check the phenol composition but it was subsequently determined to be an 80% aqueous solution. Post-injection, the patient developed necrosis at the upper border of the ano-rectal canal, which necessitated surgical debridement and defunctioning end-colostomy. The colostomy was eventually restored successfully with full patient recovery after some months. A medical negligence claim was unchallenged.

Reporter's Comments:

I have always taken great care with injection of haemorrhoids. My mistake here was to fail to check what I was injecting, resulting in severe adverse consequences for the patient. I would never again inject anything into a patient that I had not carefully checked myself.

CORESS Comments:

Members of the Advisory Board were aware of several instances of misadventure with phenol. Phenol may be prepared in oil, or as an aqueous solution. It has been employed in a variety of areas in medicine. These include sclerotherapy for piles; nail bed cauterisation for ingrowing toenails; nerve ablation; injections for dystonia or spasticity and topical application for cosmetic chemical peels. Therapeutic concentrations of phenol vary from 1% w/v to 80-88% solutions, employed for nerve ablation or nail bed cauterisation. Both 5% and 80% phenol may be found in outpatient departments, and confusion between preparations may result in disastrous outcome.

Injections for piles should be submucosal, to promote fibrosis and scarring, and usually employ 5% oily phenol injections of 2-3 ml at the base of each pile. The maximum volume injected should be 10ml. Inadvertent intravascular injection has caused circulatory collapse, and inadvertent deep injection into the prostate has been reported to cause a variety of urological symptoms including prostatic abscess and cavernous plexus damage resulting in impotence [1]. Anorectal necrosis and necrotising fasciitis is also reported as a potential complication [2].

Whenever using phenol for injection, the clinician must check the appropriate concentration and formulation for the procedure to be undertaken.

[1] Bullock N
Impotence after sclerotherapy of haemorrhoids: case reports. BMJ 1997;314:419

[2] Kaman L, Aggarwal S, Kumar R, Behera A **and** Katariya R N
Necrotizing fascitis after injection sclerotherapy for hemorrhoids: report of a case.
Dis Colon Rectum1999 Mar;42(3):419-20.

MISSED MICROCALCIFICATION

(Ref: 86)

A patient in her early forties was referred with breast pain. History and examination were unremarkable, but mammography revealed an area of microcalcification of uncertain significance. I performed a stereotactic core biopsy of this area. An x-ray of the cores confirmed the presence of microcalcification. However, the subsequent pathology report commented on benign breast change only.

It was only after I had informed the patient of the welcome pathology findings that it occurred to me that microcalcification had not been mentioned in the report. I re-examined the slides with the pathologist and the changes seen were as described in the report. No microcalcification was seen either directly or with polarised light. We examined the original specimen bottle and noticed a small residual piece of tissue. Histological examination of this tissue revealed ductal carcinoma in situ. The patient was informed and appropriate treatment carried out. Although no physical harm was done, I had egg on my face and the patient suffered significant psychological impact.

Reporter's Comments:

In this case, there was undue reliance on a single test that did not, on reflection, fit in with the rest of the pattern. This illustrates the need to look at the whole picture and not to rely on a single investigation to provide confirmation of a diagnosis. Close collaboration of surgeon, radiologist and pathologist avoided the delay in diagnosis that might have otherwise occurred.

CORESS Comments:

The pathologist should process ALL the tissue submitted. Most breast screening units now place cores in a CellSafe device which ensures all material taken is examined. The clinician should state how many cores were taken, so that the pathologist can cross check that they have examined all the cores.

DETERIORATION AFTER LAPAROSCOPIC APPENDICECTOMY *(Ref: 79)*

A morbidly obese patient underwent laparoscopic appendicectomy for acute appendicitis. Post-operatively, he had pyrexia and abdominal discomfort on day one and became progressively more unwell. Laparotomy was eventually undertaken on the fourth postoperative day. This revealed an iatrogenic perforation in the sigmoid colon, presumably acquired at the time of port insertion. Extensive faecal peritoneal contamination necessitated a Hartmann's Procedure. The patient gradually recovered after more than 30 days of complicated hospital stay.

Reporter's Comments:
Laparoscopic and open surgery on obese patients is technically demanding. Potential causes of sigmoid injury include inadvertent perforation during port placement or unrecognised diathermy burn. Port insertion under direct vision, careful use of diathermy, checking of integrity of diathermy instruments' insulation and scrupulous peri-procedural follow-up may reduce risk of and help recognise complications from iatrogenic laparoscopic injury.

CORESS Comments:
This case is the latest in a series of laparoscopic incidents (CORESS cases: 65; 70; 71; 82). The reporter's comments are valid. Deterioration following bowel perforation may follow an insidious course in the obese patient, presenting a diagnostic dilemma. Surgery in these patients should be undertaken or overseen by an experienced laparoscopic surgeon.

Specific points arising from this case include the need for the operator to keep his/her eyes on the screen when laparoscopic instruments are in the abdomen, use of diathermy controlled by operator rather than assistant, and the need for scrupulous checking of the abdomen prior to withdrawal of the laparoscope. Patients and GPs should be provided with a clear contact for follow-up in the event of deterioration following early discharge after laparoscopic surgery.

The Association of Laparoscopic Surgery of Great Britain and Ireland (ALS) has produced useful guidelines on ***Recognition, Management and Prevention of Abdominal Complications of Laparoscopic Surgery*** which can be found on the ALS website at:

http://www.alsgbi.org/pdf/ALS_Complications_Management.pdf

FAILURE TO CHECK DRUGS FOR INJECTION (1) *(Ref: 83)*

When undertaking my MS research, I acted as the RMO in a busy private hospital. On any average night, I had to administer routine IV antibiotics to up to 20 patients. On the night in question, I was accompanied by a helpful staff nurse who had drawn up each individual patient's drugs and placed the loaded syringes and ampoules in a kidney dish.

I started to give inject cefuroxime into the IV cannula of one patient who had just undergone cholecystectomy for recurrent episodic cholecystitis. As the first few drops of drug solution passed through the cannula, the patient suddenly withdrew her arm, exclaiming that she had a burning sensation at the site of injection. Immediately, I stopped injecting and laid aside the syringe. On inspecting the ampoules, the cefuroxime had been drawn up with concentrated potassium chloride rather than water for injection. Thankfully, the patient suffered no further untoward effects, although I undertook three ECGs on her that night!

Reporter's Comments:
This is, unfortunately, a well recognised and documented mistake. At the time of this event, which occurred a few years ago, ampoules of sodium chloride for injections and potassium chloride appeared similar. Both were clear glass. In this hospital, the two liquids were stored next to each other on the same shelf in the drug cupboard. The relative frequency with which this error has occurred has led to changes in packaging, but the systematic factors above did not absolve me from failing to check the ampoules. I have never since failed to inspect drug and IV fluid labels prior to administration.

CORESS Comments:
As the reporter indicates, this potential drug administration error is well recognised and has led to tragic outcomes, with patients suffering cardiac arrest and death on injection. The problem has led to system changes in most hospitals. As a result of **NPSA Patient Safety Alert NRLS -1051 (2002)**, concentrated potassium chloride is now restricted to pharmacies and critical care areas, and should be stored in a locked drug cupboard. Drugs with similar packaging are kept separately. Nonetheless, the frequency of occurrence of intravenous administration of mis-selected concentrated potassium chloride remains such that the NPSA has placed it on the list of "Never Events", identified in Lord Darzi's report ***High Quality Care for All***, published in June 2008. The NPSA has developed, and is testing, a list of Never Events and a process for use in the NHS in 2009/10 and subsequent years.

http://www.nrls.npsa.nhs.uk/resources/collections/never-events/core-list/

FAILURE TO CHECK DRUGS FOR INJECTION (2) *(Ref: 84)*

An eminent Consultant, with whom I worked, undertook an on-table cholangiogram at the conclusion of a particularly arduous and lengthy hepatobiliary procedure. To his voluble chagrin, no contrast was visible on the cholangiogram. However, shortly afterwards, the patient had a prolific diuresis.

When the glass vial of radio-opaque contrast was retrieved and inspected, it was found, in fact, to be an ampoule of Frusemide, which had contained 250mg of the diuretic for IV injection.

Reporter's Comments:
Unfortunately, seniority does not prevent avoidable drug administration mistakes. The responsibility for any injection lies with the person giving the drug – always check ampoule contents, dose and expiry date. Do not become distracted by procedural complexity or by the need for urgent administration.

CORESS Comments:
The Advisory Board could only agree with the reporter's comments. Where drugs are required to be administered intra-operatively (e.g. heparin, antibiotics, local anaesthia, contrast agents), specific care should be taken to ensure that ampoules, which should be checked, remain with syringes and preferably that different drugs are kept (with their ampoules) in different kidney dishes or containers. Records of all drug administrations should be made in the operation note.