This presentation should be used in conjunction with the full publication:

*Patient Safety Update including the summary of reported incidents relating to anaesthesia 1 October to 31 December 2013.*
What is the Safe Anaesthesia Liaison Group (SALG)?

• A joint committee of the RCoA, AAGBI and NHS England

• SALG has a data sharing agreement under which critical incidents reported by hospitals to the NRLS are provided for wider sharing

• The Patient Safety Update is a quarterly publication which is the mechanism for sharing reported data

• This presentation provides a précis of the Patient Safety Update for June 2013
What is the Safe Anaesthesia Liaison Group (SALG)?

Why discuss the Patient Safety Update at M&M?

• Raise the profile of patient safety within departments.

• Learn from the experience of others.

• Use the slides that you find useful (there is no need to use them all).

• Slides should be used with the details in the full safety update.

• Add information from your own department.

• Feed back to SALG@rcoa.ac.uk.
On the SALG Agenda

Incident data reported in Scotland

• An agreement is now in place with an NHS organisation in Scotland to provide cleansed incident data for sharing through the Patient Safety Update (PSU).

• If you are in Scotland or Northern Ireland and would like to share the learning from anaesthesia related incidents with the specialty via the PSU, we would be happy to hear from you to make the appropriate arrangements.
Bone Cement Implantation Syndrome (BCIS)

Incident Report

• Patient admitted with fractured neck of femur. Patient had a R hemiarthroplasty under GA. Cement inserted and at this point all the patients’ vital signs were stable. Ten minutes later the patient became hypotensive 60 / 30, tachycardia ~115 / min, hypoxic sats 57% and her end tidal CO2 fell to 2.2.

• During repair of hip fracture, patient deteriorated, blood pressure dropped, oxygen saturations became unrecordable. This happened not long after bone cement being put in (approx. 15 minutes). Orthopaedic team continued with finishing the operation, so we could get the patient back onto her back. Adrenaline was given to try to increase blood pressure. Cardiac arrest call placed... on discussion between consultant anaesthetist, consultant surgeon, medical registrar and rest of team; it was decided not to continue resuscitation.
In the September 2013 issue of the PSU, a case of BCIS was presented. At this time Costa’s study\(^1\) on mortality and bone cement supported the insertion of cemented prosthesis whenever possible. The National Hip Fracture Audit has published an analysis of 65,535 hip fracture patients according to type of anaesthesia\(^2\). Although they have demonstrated no difference in mortality between spinal or general anaesthesia, there was a significant increase in mortality at 24 hours among patients with cemented prosthesis compared to non-cemented. Bone cement implantation syndrome is suggested to be causal. The results of the Anaesthesia Sprint Audit of Practice (HQUIP supported audit undertaken by RCP and AAGBI) looking at compliance with published guidance\(^3\) on the care of proximal femoral fractures, are due to be published soon.
Bone Cement Implantation Syndrome (BCIS)

Reading

Epidural analgesia

Incident Report (1)

• Patient had epidural sited prior to GA for laparotomy. Was given epidural test dose - 6ml 0.25% plain bupivacaine. Around one minute later patient became unresponsive. Called for help. A - maintained with bag and mask, B - FiO2 100, normal bilateral air entry SpO2 98%, C - BP 75 systolic, HR 130 sinus tachy, D - GCS 3. Patient was intubated, and we attempted to support blood pressure with metaraminol and stat IV fluids... CPR commenced. Initially PEA, but rhythm swapped into shockable 4 times. Received 4 shocks, and amiodarone 300mg after third shock. Also treated for possible local anaesthetic toxicity with intralipid, and treated for possible anaphylaxis with adrenaline, hydrocortisone and chlorpeniramine. CPR continued for one hour... no return of circulation after one hour – team decision made to stop CPR.
Epidural analgesia

Incident Report (2)

• Epidural inserted for pain relief following laparotomy. Patient asleep as transferred directly from ITU. No apparent problems with epidural over weekend but noted to not be working on Monday morning. Heparin stopped, clotting checked and epidural removed. Heparin given four hours after epidural removed as per guidelines. Patient unable to bear weight on left leg. Complete sensory loss and significant reduction in motor function.
Epidural analgesia

Comments

NAP3 demonstrated that most incidents of neurological harm associated with central neural blockade (CNB) arose in the perioperative period and these were more common with epidural blocks. The AAGBI and OAA have produced guidance on the risks and management of peri-operative anticoagulation and regional anaesthesia¹.

Reading

Harrop-Griffiths W et al. Regional anaesthesia and patients with abnormalities of coagulation. *Anaesthesia* 2013; 63: 966-972
Stop Before You Block

Incident Report

A sciatic nerve block was performed for a total knee replacement. On turning patient it was identified that the wrong side had been blocked.
Stop Before You Block

Comments

In October 2010 the NPSA issued a signal alert on wrong-side nerve blocks and SALG published a safety alert. These were followed closely by the Stop Before You Block (SBYB) campaign led by anaesthetists from Nottingham University. SBYB is a rapid check made immediately prior to needle insertion and is designed to complement the WHO checklist. The check is initiated by anyone in the team and only takes a moment. Inherent in the SBYB guidance is for local clinical governance procedures to audit effectiveness of the tool. The tool can be accessed via the AAGBI and RCOA websites. A national review of the campaign is planned.
Airway disasters: a lesson for us all

Incident Report

• Patient extubated on ITU, developed stridor and then had a cardiac arrest, unable to reintubate patient.
• Patient having a hand operation under an arm block by the anaesthetist. Converted to a GA because of pain. Patient could not be intubated and developed cardiac arrest with hypoxia. Help called for and arrived quickly. Eventually resuscitated and intubated after 3/4 hour and was transferred to ITU. Patient died.
• Insertion of feeding tube with tracheo-oesophageal fistula... unable to adequately oxygenate patient, leading to hypoxic cardiac arrest and death on the table.
Airway disasters: a lesson for us all

Comments

The NAP4 report remains essential reading. The report states that none of the audit’s findings are surprising or new but they provide a unique opportunity for us to learn and to make anaesthesia safer.
Airway equipment: expect the unexpected

Incident report

• High airway pressures, due to obstructed endotracheal tube secondary to internal herniation of pilot tube. Required re-intubation.

Comments
A routine check of airway equipment before use is essential\(^1\). Even when checks are done the unexpected can happen and does. Always consider this in your differential when having difficulty ventilating an intubated patient.

Reading
Managing complications of surgery

Incident Report

• Patient death in operating theatre. Elective laparotomy in the morning... taken to HDU. Persistently hypotensive on HDU requiring small amounts of noradrenalin all afternoon. Deteriorated approximately five hours later, large quantities of fluid resuscitation, increasing inotrope requirement and eventually blood and blood products. Returned to theatre after another three hours, approx 3 litres of blood in abdomen. Irreversible hypotension despite aggressive management. Asystolic cardiac arrest.
Managing complications of surgery

Comments

Failure to recognise deterioration and failure to rescue were two themes identified by the Data Intelligence Group (sub-committee of SALG) as warranting further review following a deep-dive search of the NRLS database. The Surgical Services Patient Safety Expert Group (NHS England and NHS Wales) will take this review forward on behalf of anaesthesia and surgery. Learning points will be shared across the other patient safety groups.
Compartiment Syndrome

Incident Report

• Anterior compartment syndrome bilateral lower limbs secondary to proning position.
• The patient came to theatre for an arthroscopy. The operation was completed without incident and the patient was transferred to recovery. During recovery the patient had been in a lot of pain, IV boluses had not been sufficient so a PCA was prescribed. The patient’s leg was painful and in spasm... a differential diagnosis of compartment syndrome was made... The agreed plan was to try and control the pain, apply ice packs to the leg and to review in 30 minutes... no improvement, the patient would return to theatre for an emergency fasciotomy/decompression and exploration of wound. ... patient became bradycardic and then apnoeic....arrest call made.... 20 cycles of CPR and ALS were performed... it was unanimously agreed to stop CPR.
Compartment Syndrome

Comments

Compartment syndrome is a well-recognised complication of trauma and is seen most commonly in association with fractures.1 It may occur without a fracture during anaesthesia and surgery where situations of reperfusion, ischaemia, burns and poor positioning in lengthy operative procedures exist. The treatment, emergency fasciotomy, depends upon rapid diagnosis. The most important step in diagnosis is the index of suspicion. Mar’s review provides a summary of the condition and says there is little evidence that analgesia masks the symptoms of compartment syndrome.

Reading
Adverse incidents and fatigue

Incident Report

• Serious desaturation after CT scan... I am concerned that my personal performance may have been affected by fatigue. This incident occurred on a Wednesday morning. My working patterns for this week: Monday in theatre for 12 hours with a 20 minute break for lunch, Tuesday in theatre in the morning, office session in the afternoon and on-call overnight getting home at 00.30. Sleep was disturbed by several telephone calls... I am now in my late 50s and am finding problems with sleep disturbance.
Adverse incidents and fatigue

Comments

There is good evidence for a link between fatigue and increased incidence of adverse events\(^1\). Inadequate sleep is the single most important factor in developing fatigue and may arise due to insufficient sleep, prolonged wakefulness and being awake when one would normally be asleep. Add to this ageing where sleep patterns are less stable and interruptions to sleep are more difficult to recover from. Individuals need to take responsibility for assessing their fitness to work. Professor Tucker provides a succinct summary of the evidence in a recent editorial in *Anaesthesia*\(^2\).

Reading

- Tucker P. The Tiring Anaesthetist *Anaesthesia* 2014; **69**: 1-13
What was reported
• 5,707 anaesthesia-related incidents were reported

eForm
• 19 incidents were reported using the anaesthetic eForm
• Six of these were reported as ‘near miss’
• 11 of these incidents reported via the eForm were reported to the NPSA within one day

Local risk management systems
• 5,688 incidents were reported using local risk management systems (LRMS)
• 12% of these were reported as ‘near miss’
• 49% of incidents were reported via LRMS to the NPSA within 30 days
Figure 1 shows the degree of harm incurred by patients within the anaesthetic specialty during the period 1 October-31 December 2013. 14 deaths were reported through LRMS and none via the anaesthetic eForm.
Figure 2 shows the type of incidents that occurred within the anaesthetic specialty that were reported using LRMS or the anaesthetic eForm for the period 1 October-31 December 2013. The categories were determined at local level.
Please report incidents so they can be used for learning

• Use your local system

Or

• Use the anaesthesia eForm https://www.eforms.nrls.nhs.uk/asbreport/