The Faculty of Intensive Care Medicine

Safety Incidents in Critical Care

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Introduction

Through a data sharing agreement, the Faculty of Intensive Care Medicine (FICM) can access a record of incidents reported to the National Reporting and Learning System (NRLS). The NRLS is a confidential database of patient safety incidents reported via healthcare organisations and individuals. It is important to remember that the incidents included are only those reported to the NRLS, rather than all that occurred. The other key feature is that the available information is limited, and from a single source; all that we know about these incidents is what is presented in this report.

The purpose of the Safety Bulletin is to highlight incidents that are rare or important, and those where the risk is perhaps something we just accept in our usual practice. It is hoped that the reader will approach these incidents by asking whether they could occur in their own practice or on their unit. If so, is there anything that can be done to reduce the risk?

Case 1 | A message lost in the pursuit of perfection?

A patient with severe sepsis was reviewed mid-morning on the ICU ward round. The consultant instructed the patient to receive antibiotic A, but to also discuss with a microbiologist. The antibiotic was not prescribed. Approximately an hour later, the microbiologist advised antibiotic B, but this was also not prescribed. During the evening ward round, an ICM consultant asked for antibiotic A to be given. This was prescribed with the first dose to be given four hours later. Before that time, the patient suffered a cardiac arrest and died.

Comment

Whether the patient received antibiotic A or B the outcome may have been the same, however somewhere in the complex communication that was occurring that day, the central message that the patient needed antibiotics was lost.

Case 2 | A faulty line?

A patient suffered a cardiac arrest soon after the central line lumen containing noradrenaline became occluded. This was identified immediately because of the audible alarm on the syringe driver. The incident report comments that there had been previous episodes of line occlusion with this type of central line.

Comment

In England and Wales, if you believe a medical device has caused, or almost caused, an injury to a patient or other person you should report this via the yellow card system to the Medicines and Healthcare products Regulatory Agency (MHRA). In Northern Ireland it should be reported to the Northern Ireland Adverse Incident Centre (NIAIC), and in Scotland to the Health Facilities Scotland online incident reporting system. The device should be retained if possible.

Case 3 | Communication and transfer of care

A patient was transferred at approximately 2200 from the ICU to a ward. The incident form states that no medical handover had taken place and that the receiving team were unaware of the stepdown. In the early hours of the morning the patient suffered a cardiac arrest and died.

Comment

The National Institute for Health and Care Excellence (NICE) state that "Adults admitted with a medical emergency have a structured patient handover during transitions of care," and GPICS V2.1 contains the following standard: ***"There must be a standardised handover procedure for medical, nursing and AHP staff for patients discharged from critical care units with a formalised transfer process. This must include their structured rehabilitation prescription."*** How can we ensure that when busy and under pressure a handover is never forgotten?

Case 4 | Just press on it?

A patient on ECMO had their radial arterial line removed. An unfractionated heparin infusion was running, with an anti-Xa level of 0.71U/ml (top of therapeutic range). Bleeding from the site could not be stopped despite the application of a radial artery compression device; the patient required a blood transfusion and a transfer to theatre under the care of the vascular surgeons.

Comment

It is unclear whether the device in question was a standard 20G arterial line or a sheath used for intervention. If the latter, removal as soon as the device is no longer required might be the best approach.

Case 5 | Never events still happen

A patient was being fed via a fine bore feeding tube which was bridled. A daily safety check confirmed an unchanged position, but later the tube was noted to be measured at 25cm rather than 65cm at the nose. The patient had also desaturated, requiring emergency intubation. The report states that, subsequent to this incident, the unit began re-cording NG tube position four hourly.

Comment

The approach to confirming the position of an NG tube is well described. The issue here was one of displacement, despite a bridle being in place. A misplaced NG tube should always be considered as a cause of desaturation.

Cases 6, 7 & 8 | Infusion woes – wrong drug

A patient was noted to be hypotensive (SBP 65-70mmHg). The bedside nurse had changed the Noradrenaline infusion, which was running at 30mls/hr. Upon checking the label of the drug, it was noted to be Fentanyl, not Noradrenaline. The error was identified and corrected.

Whilst distracted by giving a crystalloid bolus and preparing a noradrenaline infusion, a patient was given Fentanyl at 100ml/hr rather than the intended 2ml/hr. The mistake was identified when the syringe driver containing fentanyl alarmed as nearly complete.

A patient was administered a 125 ml bolus of Tirofiban instead of the intended crystalloid solution.

Comment

Anaesthesia have gone to great lengths to colour code drugs according to their action, yet in critical care, we generally still use a generic 'drug added' sticker for our infusions. The Association of Anaesthetists with others (including FICM) have recently updated their guidance on syringe labelling.

Case 9 | Prolonged pacing

A patient was admitted to the ICU following an out of hospital cardiac arrest, secondary to a polypharmacy overdose. External (transcutaneous) pacing was used for 12-48hrs (the exact duration is unclear from the incident report). After removal of the pads, burns were noted on the patient's skin.

Comment

Transcutaneous pacing is a temporary measure, with burns being a recognised complication of prolonged use. Further information can be found in this interesting case report.

Case 10 | A safe environment?

A patient formed and used a ligature from a towel used earlier in the shower. The patient was under near constant surveillance.

Comment

Despite our best efforts, critical care units are difficult to make safe for those who want to harm themselves. Is there anything we can do to alter the environment to reduce the risk?

Case 11 | Standardised drug concentrations

A patient was transferred between critical care units with a heparin infusion running. The concentration of heparin was different to the receiving unit's standard, but this was not identified so the patient received a supra-therapeutic dose.

Comment

This NPSA alert included a recommendation that Heparin infusions should be standardised to 1000 units/ml. Further standardised drug concentrations have been proposed to prevent similar incidents, and the concentration of all infusions must be clearly communicated when transferring between clinical areas.

Case 12 | Tracheostomy bleeding

During insertion of a percutaneous tracheostomy, the operator identified that a false passage had been created with associated bleeding. The tracheostomy was left in situ to tamponade the bleeding and was taken to the operating theatre for exploration. A tear was identified in the brachiocephalic artery, which required a sternotomy to repair. Only two units of blood were required, and the patient was stable throughout.

Comment

From the information provided, leaving the tracheostomy in place was lifesaving.

Finally, we would be grateful for any anonymous summaries of incidents or near misses that we can learn from. Please get in touch via contact@ficm.ac.uk