The Faculty of Intensive Care Medicine

Safety Incidents in Critical Care

January 2023 | Issue 6

Introduction

This is the sixth issue of the Safety Incidents in Critical Care Bulletin, taken from NHSE/I sourced data on 353 critical care incidents classified as moderate or severe in patients above the age of two from November 2021 to the end of July 2022. The aim of the bulletin is to summarise this information in a more digestible form and make it more available to doctors, nurses and AHPs on critical care.

Once again it cannot be regarded as a precise quantitative account of all incidents because it relies on anonymised reporting by individuals meaning; extensive or additional details are not available. It does, however, give a strong indication of the type of episodes which are occurring and the lessons that can be learnt.

There are many ways to think about and respond to safety incidents, which are often divided into a Safety 1 and a Safety 2 approach - **Safety 1: what incidents have happened vs Safety 2: what has gone well and why.**

Incidents can be examined from the viewpoint of what happened acutely to cause an incident, but often more importantly what predisposing factors were lying hidden in the background. This is especially important when changes are made, or resources are spread thinly which remove the last layers of defence that held problems at bay. Errors and incidents will inevitably occur, but efforts to remove the scope for building in latent underlying causes that will eventually set up an error or incident are essential.

Airway, Respiratory Support, Ventilation and Oxygen

19 episodes involving the airway or oxygenation were reported. One patient was placed on ventilator standby and accidentally left for a prolonged period. Two involved loss of oxygen supply; one due to an empty cylinder and one a failure to connect adequately to piped oxygen. Six required reintubation in difficult circumstances. One showed the need to establish if the airway is potentially patent with a leak test prior to extubation, after a relatively prolonged period of intubation. There were also episodes of foreign bodies in the airway causing occlusion and in one case a ventilated patient lost their airway. The absence of continuous capnography delayed diagnosis.

Adequacy of supply of oxygen and ventilation

A patient was transferred on CPAP. The spare cylinder was empty, resulting in desaturation and cardiac arrest.

Another case was reported where an oxygen cylinder had run out during transfer and a full connection had not been made to the wall supply, resulting in a hypoxic cardiac arrest.

There was a case where a ventilator was turned to standby with the intention that this would be for a very brief period, but this was forgotten when a distraction occurred, and attention was focussed on another task (an insertion of an arterial line). This also resulted in a cardiac arrest.

A postoperative patient ventilated on a cardiac ICU with a difficult airway was thought to have coughed out their endotracheal tube (ETT). The situation was unclear and a capnograph monitor was called for (1). The patient suffered a hypoxic cardiac arrest and was reintubated at the second attempt with a video laryngoscope and bougie. Return of circulation occurred.

Foreign bodies in the airway

A suction catheter was not fully withdrawn prior to an ETT being cut in situ, and was then lost into the airway causing obstruction.

A cardiac arrest occurred during a bronchoscopy in a paediatric patient.

Woven synthetic material was revealed at bronchoscopy occluding the trachea at carina level (see attached SBAR account). The patient, with a newly inserted tracheostomy, had desaturated following a roll, when the tracheostomy had become occluded. Initial attempts to intubate via the oropharyngeal route and via the stoma failed. A size 6 ETT was passed via the oropharyngeal route with the aid of video laryngoscopy allowing some ventilation, but inflation pressures remained high until the material was pushed aside.

A tracheostomy was dislodged overnight in a ventilated patient causing partial obstruction. At bronchoscopy a swab or similar material was found in the airway.

A rapid respiratory deterioration necessitating emergency reintubation, occurred three days after accidental tracheostomy decannulation in a weaning patient. At bronchoscopy a thin tubular foreign body, thought to be a medical device was found extending from the trachea into the right main bronchus.

Other causes of airway obstruction

A Passy Muir valve was placed on a tracheostomy with the tracheal cuff still inflated. A speech and language therapist saw the patient struggling to breathe and alerted the nurse to remove the Passy Muir valve (2, 3).

No tracheostomy care had been documented during a 12-hour shift and the humidification system on the ventilator was empty. Soon afterwards the patient became distressed and desaturated. The tracheostomy inner cannula was found to be completely blocked with secretions (4).

Severe bronchospasm, thought to be due to a bronchoscopic alveolar lavage, occurred in a ventilated patient, producing high ventilatory pressures which resulted in a pneumothorax.

Three further displacements of tracheostomies resulted in airway obstruction including one in a patient with a surgical tracheostomy who had had major maxilla-facial surgery. Recovery of the airway took 20 minutes, leading to a cardiac arrest and a pneumothorax.

A patient was extubated after 13 days of intubation. Ten minutes after extubation, upper airway obstruction was severe and oxygen saturations were falling despite the aid of CPAP from a Water's circuit. A rapid sequence induction revealed cord oedema. After two attempts at intubation, including use of a bougie, front of neck access was gained, which was later replaced by an oral ETT.

Pneumothoraces

A wrong sided needle decompression occurred in a rapidly deteriorating proned patient who was turned supine for the procedure, resulting in bilateral pneumothoraces (6, 7).

A covid pneumonia patient developed a pneumothorax immediately after intubation and ventilation, requiring a surgical chest drain.

Another covid patient on CPAP developed surgical emphysema after several days of CPAP (pressures not described).

Comment

Preparation is vital when minimising airway and ventilatory complications (8). Making this as easy as possible with basic equipment such as continuous capnography should be part of the normal routine. Difficult airway equipment is vital and should be immediately available near the bedside. The team should understand what is needed and be regularly trained in airway procedures and emergencies. Adopting a cuff leak test prior to extubation, pre-drawing up anaesthetic drugs prior to extubation, more rapid availability of an Oxford pillow and stylets for the Glidescope should be considered. Attention to head and neck positioning is important (5, 6).

Speaking valves should never be used with the tracheostomy cuff inflated. Understanding the anatomy and physiology of breathing through a tracheostomy and the routes of inspiration and expiration and the impact of cuff inflation especially when using 'speaking valves' is an essential part of care. Similarly having knowledge of potential airway swelling and the use of cuff down leak tests (9) and other assessments before extubation is very important.

Always check that oxygen is being supplied (4), cylinders are adequately full (7, 10), reserves are available and ventilators are appropriately set, connected and taken out of standby into an active mode.

A positive sequence of checks is needed, especially to avoid complications during distracting events such as handovers and transport. Pulse oximeters and capnography must always be in use and alarms set and working.

Foreign bodies in the airway or the breathing circuit need to be considered (11).

Arterial lines, central venous catheter (CVC), Continuous renal replacement therapy catheters (CRRT), peripheral lines and other invasive devices

A CVC line was not transduced and noradrenaline was then infused intra-arterially. Air embolisms were reported as a result of open CVC lines and seldinger lines were lost into patients. Ischaemic limb injuries were reported after arterial lines including one followed by amputation. Incidents related to the movement of an RVAD, loss of ICP monitoring and occlusion of a spinal drain were reported.

Peripheral lines

Four peripheral line incidents were described, including one cellulitis and three extravasations, including one with two boluses of 50% glucose for hypoglycaemia.

A spontaneously breathing patient, admitted from theatres suddenly became breathless. Neuromuscular blockade was thought to be the cause. A second dose of sugamadex was given (the first had been given at the end of the operation 40 mins earlier). The patient's breathing quickly returned to normal and they were able to communicate.

Arterial Lines

Two reported episodes of ischaemia included a PICCO brachial arterial line complicated by thrombus formation resulting in lower arm amputation, and the other described ischaemic fingers following a radial arterial line.

Two cases of losing an arterial cannula into the artery occurred, including one cut when a dressing was being trimmed with scissors and another that detached from its hub.

CVC Lines

A CVC was found to be in the subclavian artery on CT scan after seven hours of infusion of noradrenaline. The line had not been transduced. A femoral CRRT line was inserted into a femoral artery and then dilated. The vessel had appeared venous on ultrasound. Pressure was applied and the case managed conservatively after seeking advice from the vascular team. Unfortunately, a pseudoaneurysm subsequently developed.

A CVC line was not aspirated at insertion. When eventually it was cleared, the CVC pressure was high (25 cm H2O). Pain and a haemothorax developed after six days use of a CVC, with the tip appearing in the mediastinum near a collection and a haemothorax.

There was an attempt to insert a femoral Vascath next to a CVC line, which had just been inserted. When the Vascath was inserted resistance was felt and so it was removed, which resulted in major bleeding and subsequent surgical exploration.

In another case, CVC insertion resulted in laceration at the junction of right internal jugular and subclavian vein.

Two pneumothoraces occurred after CVC insertion including one after subclavian CVC insertion. A CVC guidewire was detected in the patient on follow up CxR.

A CVC line was found to have a port open resulting in an air embolus and blood loss.

Another patient desaturated, requiring intubation, during which it was noticed that a lumen of the CVC was open and an air embolism occurred precipitating collapse.

A central line was mistakenly removed in a child on discharge from ICU however, it was still needed for TPN so a GA was required for reinsertion.

Right ventricular assist device (RVAD)

Migration of an RVAD device occurred in a patient who died. The tip was in the right ventricle and not the pulmonary artery. This was not seen until a retrospective review was made of the chest Xray and CT.

> "CVC catheters continue to be a source of incidents often related to a lack of confirmation of where they lie. Careful aspiration and flushing of lumens to determine if they are within a vessel and pressure transduction to ensure that the catheter is within a vein are essential.

ICP monitoring

A Codman ICP monitor lost zero calibrations during transfer to CT because the battery ran out. It could not be reset so a new ICP monitor had to be surgically inserted.

An ICP bolt was pulled out during transfer of patient from one bed to another by four staff. A new bolt was required. In another case an EVD was pulled out.

Spinal drain

A spinal drain was blocked by an incorrectly placed intrathecal injection filter, resulting in pressure build up causing loss of leg movement.

Comment

Line flushing before extubation and transfer from theatre is important to ensure no late presentation of the effect of neuromuscular blockers. (12, 13).

CVC catheters continue to be a source of incidents often related to a lack of confirmation of where they lie (14). Careful aspiration and flushing of lumens to determine if they are within a vessel and pressure transduction to ensure that the catheter is within a vein are essential. Detachment of caps or injection ports, especially when moving or sitting a patient up or out are regularly reported leading to major air embolism events. Awareness and active checking for detachment especially during patient movement is vital, as well as use of methods to reduce detachment from the CVC line.

> "Suitability for transfer is an important consideration, but so is a recognition that deterioration can occur. Transferring teams should have access to suitable equipment, drugs and monitoring, as well as sufficient training to reduce these risks and to provide an adequate handover.

Transfer incidents

A patient was transferred from theatre on ECMO with the chest open. Cubicle pressures were not checked for seven days and then found to be negative rather than positive, potentially allowing infectious agents to enter the room.

A patient with endocarditis was transferred from the ward without a nursing or medical escort despite EWS of 11 and 60% oxygen. No drug card, notes or blood results came with patient and as a result antibiotics were delayed.

A patient deteriorated immediately after reaching cardiac MRI and suffered a cardiac arrest and died.

A non-clinical transfer patient was found on arrival to be mottled with neutropaenic sepsis following chemotherapy and in multi-organ failure with a lactate of 12 on 18ml/hr of 0.5mg/ml metaraminol.

Comment

Suitability for transfer is an important consideration, but so is a recognition that deterioration can occur. Transferring teams should have access to suitable equipment, drugs and monitoring, as well as sufficient training to reduce these risks and to provide an adequate and safe handover. Consideration of the requirements and vulnerabilities of patients such as the need for positive pressure rooms (or negative pressure) should be taken into account, just as the need for a ventilator or another piece of critical care equipment would be when setting up the room (19).

Nasogastric tubes, chest drains, urinary catheters and bowel management systems

Nasogastric tubes

Seven insertions into the lung were reported, resulting in two pneumothoraces and four aspirations. In three cases Xray interpretation was incorrect. One of which was then rereported as in the right main bronchus, and in another the existing Ryles feeding tube was confused with the new misplaced NG tube. One NG tube produced fluid of pH=5 and was thought to be in the stomach, when it was actually in the lung.

Chest drains and pleural aspiration

Two chest drains were inserted into the lung parenchyma.

One chest drain may have caused a cardiac or lung injury, and another was passed into the abdomen.

In another case two chest drains were removed instead of one due to a miscommunication, resulting in reaccumulation of a pneumothorax. A pleural aspiration to aid weaning in a fully anticoagulated patient resulted in a haemothorax.

A wrong sided needle decompression of a pneumothorax occurred in a rapidly deteriorating proned patient. They were turned supine for the procedure, resulting in bilateral pneumothoraces.

Urinary catheters

There were two episodes of urinary catheters that had not been advanced far enough, with no urine draining before inflation.

A catheter was passed into an ileostomy, perforating through to the abdominal cavity causing peritonitis.

A bowel management system perforated the rectum, resulting in haemorrhage.

Comment

Great care is needed when confirming the position of NG tubes. If they are misplaced in the lung they may produce a pneumothorax (15).

Ensuring correct side interventions are undertaken safely is vital when inserting chest drains or decompressing a pneumothorax. Incorrect cues may be present (16).

Special care and confirmation is needed when interpreting which side is involved, not just when examining radiology, but also when positioning the patient, especially when moving from prone to supine. Adequate length of insertion of urinary catheters is vital to ensure the balloon is in the bladder before inflation.

National Patient Safety Alert

On 10 January 2023, the NHS England National Patient Safety Alert Team issued an alert on the safe use of oxygen cylinders where patients in hospital do not have access to medical gas pipeline systems.

During periods of extreme pressure, the demand for oxygen cylinders (in particular small cylinders) increases in the NHS, due to the need to provide essential oxygen treatment in areas without access to medical gas pipeline systems. This demand increases the risks assosciated with the use of medical gas cylinders.

NHS England has issued providers with a summary of best practice guidance on the 'Safe use of oxygen cylinders' to help NHS organisations to prevent these risks.

Medication Errors

Wrong drug or fluid

Six cases:

- A patient was given antihypertensive drugs despite being hypotensive.
- Metaraminol was given instead of metoclopramide as a slow bolus, producing a hypertensive response.
- Magnesium was given in error resulting in a level >4 mmoles/litre.
- Milk containing feed was given by the NG route to a patient with milk allergy.
- The wrong blood group red cells were given when the bag was not checked correctly.
- Acetozolamide was given for idiopathic intracranial hypertension, which may have exacerbated a respiratory acidosis leading to unconsciousness.

Wrong route for a drug

10mg midazolam was prescribed orally but given intravenously resulting in a desaturation to 42% (18).

Wrong dose or rate given or prescribed

During the change from single to double strength noradrenaline the patient developed hypertension and then VT. A bolus of noradrenaline had accidentally been administered.

A noradrenaline infusion syringe ran out, without a replacement being ready very shortly after the transfer from theatre, resulting in hypotension and death.

A cardiac arrest occurred after 40 mmols IV potassium was given over 10 minutes.

Levetiracetam was prescribed but not given twice, followed by severe seizure activity.

An inappropriately high dose of vancomycin was given. Levels rose to 40mg/l leading to renal failure.

Codeine, oromorph and oxycodone were given to a patient with renal failure, resulting in respiratory depression, drowsiness and increased ventilatory support.

A patient required readmission to ICU with pneumonia and signs of steroid deficiency after hydrocortisone was stopped abruptly on the ward.

"A noradrenaline infusion syringe ran out, without a replacement being ready very shortly after the transfer from theatre, resulting in hypotension and death.

Anticoagulation and thromboprophylaxis

A pulmonary embolism occurred resulting in death after discharge from ICU to the ward. Dalteparin had not been transferred onto the ward prescription on discharge.

Too low a dose of enoxaparin was given postoperatively after a fractured neck of femur repair, which was followed by pulmonary emboli.

A thoracic epidural was inserted preoperatively for an open repair of a juxta-renal abdominal aortic aneurysm. At the end of the operation the surgeons commenced a heparin infusion because of clots in the leg. Two days later weakness was noted and subsequently MR scan showed epidural haematoma, which was then decompressed.

Whilst on a heparin infusion of 5000iu/hr, the APTT was found to be 7.0 however, the results were thought to be incorrect. A repeat sample was thought to have been sent, but no result was found. Overnight the patient developed several major episodes of fresh rectal bleeding and melaena.

An APTT sample was frozen and not processed in a patient on unfractionated heparin who was found to be over-anticoagulated. The sample was additionally coded for anti-Xa measurement and so had been frozen for testing the next day.

Comment

Access to documentation relating to administration and prescription at the time of transfer is vital, together with an understanding of the reasons for a drug and the plan for its continued use. Linked up systems need to be in place to allow this to happen consistently.

Organisation and Staffing

> "Nursing staff felt overloaded when a deteriorating patient was admitted to the unit, who rapidly died. Around the same time another new admission presented, occupying a further nurse, leaving one nurse to look after a Level 2 and a Level 3 patient. Simultaneously, another Level 2 patient deteriorated and became hypotensive.

Lack of staff or service

A patient arrived in the ED with hyperkalaemic cardiac arrest, but had achieved return of spontaneous circulation (ROSC). The patient could not be transferred to the ICU for CRRT due to lack of nursing staff. Whilst waiting, the patient had two further episodes of VT requiring further shocks. These difficulties also tied up ICU medical staff on ED who were not available for other patients

A patient referred for Percutaneous Coronary Intervention (PCI) from another hospital could not be transferred for treatment due to a 90 minute wait for an ambulance.. By this time the myocardial infarction (MI) had extended and pulmonary oedema worsened. Subsequently the left ventricular infarct led to cardiac rupture and death.

A post cardiac arrest patient with an MI, who had undergone prolonged resuscitation, had been thrombolysed and had had a chest drain inserted for a pneumothorax, before being transferred on 100% oxygen to a regional PCI centre. The PCI was completed and the patient transferred to a third hospital because no bed was available in the initial referring hospital or the second hospital.

No bed was available to allow transfer of a patient for interventional radiology (IR) to drain hepatic abscesses and no IR service was available at the weekend in the referring hospital. The patient then became too unwell to transfer.

A patient with a history of severe peptic ulceration, two very recent endoscopic interventions and a CTA with recent empirical gastroduodenal artery embolisation developed active haemorrhage. Five hospitals were phoned to find an IR service, taking a further three hours. This was then followed by an 80-minute transfer.

A one-month delay occurred in availability of TOE for a patient with likely endocarditis, which then revealed a large aortic root abscess.

An ICU patient was transferred to a renal unit at another hospital as they were only requiring haemofiltration. The retrieval service and the ambulance service rejected the transfer because acuity was now low and suggested hospital transport. This was arranged with an ICU nurse escort. The patient deteriorated during the transfer.

An emergency transfer to a regional paediatric cardiology unit for echo and potential treatment of cardiac tamponade was not possible due to a lack of beds.

Delay in availability of radiology and investigations

A patient deteriorated neurologically, developing fixed and dilated pupils. No CT scan was available for two hours because of electrical work. The neurosurgeons were not called initially because no CT scan available.

A complex, and eventually fatal case, with sepsis, vena-caval clot and liver abscesses was followed by neurological deterioration, during which it proved difficult to obtain timely imaging and reporting.

An interval CT scan was cancelled by radiology twice (no cause given in the report). CT scanning was performed three days after the original plan, showing widespread gut infarction, eventually resulting in death.

Delays in reporting

An urgent CT scan of the abdomen and pelvis for a deteriorating ICU patient was not sent for reporting for over five hours. Multiple phone calls to expedite the process, including from the Consultant involved, led to a report being issued 6.5 hours after imaging, revealing an anastomotic leak.

A patient was admitted with an ischaemic foot for thrombolysis. They developed hypertension and pain, despite amlodipine and analgesia, and then suffered a subarachnoid haemorrhage and parenchymal

haemorrhage leading to raised ICP and subsequent death. During this episode the patient was in need of fibrinogen level results. These were reported as "needs manual testing", however no results or requests to repeat sampling were communicated to the ICU by the laboratory.

Delays in treatment or acting on results

A potassium of 6.0 mmols/l was measured in a ventilated patient, in the cath lab, with heart failure and bradycardia requiring pacing. No potassium reducing treatment was given over the next two and a quarter hours. Potassium was found to be 7.3 mmoles/l with a severe metabolic acidosis. The patient suffered a cardiac arrest and died.

A patient had suffered hypoglycaemic events during the previous day. A seven-hour delay occurred in rechecking blood glucose after the insulin rate was doubled from two units/hr to four, whereupon the patient developed a seizure and the blood sugar found to be 0.9.

An infected Hickman line was not removed until five days after advice to do so by microbiology. The patient died.

Supervision and visibility

An unwitnessed fall occurred, disconnecting CPAP and monitoring. The patient recovered oxygen saturations once reconnected. Another patient removed their CPAP whilst on FiO2 of 1.0. Staff were attending a cardiac arrest in a nearby bed. They were alerted to the issue as the patient desaturated and became bradycardic.

> "It proved impossible to transfer a patient with hyperkalaemia to ICU for CRRT because of lack of ICU nursing staff … Whilst waiting for CRRT the patient had two further episodes of VT requiring further shocks. These difficulties also tied up ICU medical staff on ED who were not available for other patients.

> "A seven-hour delay occurred in rechecking blood glucose after the insulin rate was doubled from two units/hr to four, whereupon the patient developed a seizure and the blood sugar found to be 0.9.

A patient pulled out their tracheostomy on a busy unit.

Monitoring had been removed because a patient was continually pulling their monitoring off. They were then found in asystole, having last been seen 45 minutes earlier.

There were seven unobserved falls of ICU patients reported from bed to floor (one resulting in a humeral fracture). Three involved a commode. A further patient fell whilst using a zimmer from commode to bed.

Nursing staff felt overloaded and unsafe when a deteriorating patient was admitted to the unit, who rapidly died. Around the same time another new admission presented, occupying a further nurse, leaving one nurse to look after a Level 2 and a Level 3 patient. Simultaneously, another Level 2 patient deteriorated and became hypotensive.

Comment

Lack of beds and services, including transfer services are frequently reported and occupy staff whilst slowing the availability of treatment for patients. Clear methods of referral with well described rotas and lines of communication that accelerate appropriate transfers are needed. Ways of ensuring capacity and the ability to receive rather than refuse patients, especially at regional centres is essential.

Timely action on blood results is especially important with potassium, blood sugar and clotting tests (21, 22). Radiology, especially CT scanning, should always be available for emergencies and contingencies should be in place if scanners have to be taken out of service.

Especially in times of reduce staff, the layout of critical care, monitoring and the alarms available should maximise the ability to keep in touch with the patient and keep them under observation. Methods of highlighting deteriorations and minimising false alarms are important (20).

Pressure Ulcers

Although this is not a numerically precise report, pressure ulcers consistently form the largest proportion of reports, and are listed by anatomical area. These result in much suffering, often in patients who are sedated or having difficulty communicating, and the effects may be long-lasting. Proning is mentioned in some reports and where it is, these are listed separately. Some in the supine group, could have been proned without it being mentioned.

Prone

These included one pressure ulcer around the eye, two on the nose, two around the mouth externally, one due to ET tube tapes at each side of the mouth, two on the lips and the pressure from an Anchor Fast had produced an injury above the mouth. Four injuries occurred on the cheeks, three on the ears, one on the chin, the chest, flanks, iliac area, hip and one on the foot.

Supine

Facial injuries included one on the tongue, one on the mouth, three on the lip related to an Anchor Fast. Three were described on the ear, thought to be due to high flow oxygen straps. Four affected the nose, plus three more specified as due to nasogastric tubes. Six involved the bridge of the nose secondary to NIV/CPAP. A jaw line sore and two areas on the back of the neck were reported secondary to a spinal collar. One occurred on the neck due to pressure from a telemetry bag.

Three injuries occurred under tracheostomy dressings, two occurred on the shoulder, one elbow and arm. Injuries on fingers were produced by two tight rings.

In the pelvic area, 17 injuries were reported on the buttocks, four on the hip, 42 on the sacrum, one was described as on the coccyx.

On the lower limbs, one injury occurred on the leg, three on the ankle, 17 were reported on the heels, plus one episode where a patient was immobile for four days awaiting neck clearance, which led to deep tissue injury to both heels as well as another where an ex-fix made movement very difficult. One was described on the foot and ten on the toes, including one due to TED stockings.

Urinary catheters produced three injuries to the penile meatus and one due to pressure on the thigh.

Comment

Regular consideration of positioning and tension in lines, NG tubes and urinary catheters are vital. Timely removal of cervical collars and related restrictions on movement when they are no longer necessary is important to reduce the pressure impact of these interventions.

Infection

Cross-infection

21 cases of Covid cross infection occurred (resulting in four deaths), plus a likely Covid cross infection from a visitor. One cross infection occurred with MRSA- 1. 13 cases of clostridium difficile were reported and two cases of EColi ESBL were isolated from femoral CVP lines.

> “Pressure ulcers consistently form the largest section … these result in much suffering, often in patients who are sedated or having difficulty communicating, and the effects may be long-lasting.

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Click here to view previous issues of the Safety Bulletin along with other safety reports and the ViRUS COVID-19 reports.

Absorbable haemostatic gauze used during a surgical tracheostomy causes delayed airway obstruction

Situation
A ventilated patient on ICU desaturated following routine repositioning and the staff experienced difficulties passing a suction catheter down the tracheostomy. This was escalated and an airway emergency was declared. The tracheostomy tube was removed. Attempts were made to ventilate the patient however these were unsuccessful, and the patient lost cardiac output. Following CPR and ROSC, a bronchoscopy was performed which revealed an obstruction at the base of the trachea. Saline flushes revealed a woven synthetic material (possibly absorbable haemostatic gauze). The material was removed from the main bronchus.

Background
Absorbent haemostatic gauze is designed to break down and be absorbed by the body. However, a potential risk to the airway may occur as these products break down and separate into smaller pieces, a portion of which could be aspirated into the airway.

Assessment
Manufactures of absorbent haemostatic gauze (Surgicel or similar) caution against its use for packing and advise removal of the product when haemostasis is achieved. They further advise that precautions should be taken to assure that none of the material is aspirated.

Recommendations
FICM, NHSE and RCS are currently collaborating to produce guidance, aiming for consistent practice. It is important to consider the risk associated with the use of absorbable haemostatic dressings both when performing a surgical tracheostomy and when caring for a patient post operatively. Please continue to report airway issues and where possible include detail of surgical or percutaneous tracheostomy and whether absorbable haemostatic dressing was used.

COMING SOON: Recurring Incidents in Critical Care

We promised to review recurring safety incidents that have appeared in all of the previous Safety Bulletins. 'Recurring Incidents in Critical Care' will be published soon highligting these repeat reports, summarising the experiences and aiming to reduce their frequency.

The document will contain links to guidelines, important advice, SOPS and local examples. We will also be producing a series of posters to raise awareness and hope that these will displayed in appropriate areas of the critical care unit.

Credits

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