Retained Guidewire - June 2022

Category:	Retained item (guidewire)
Speciality:	Critical Care
When	30th June 2022
Reference	195517 2022/13901
Keywords	Never Event, Retained item guidewire

Incident Summary

In this case a patient presented at West Cornwall Hospital Urgent Treatment Centre (UTC) on the 25/06/2022 following two days of lower back pain and 24 hours of increasing of shortness of breath. There was associated lethargy (tiredness), reduced appetite, dry mouth, and leg weakness. The patient was reviewed by an urgent care nurse at 09:00 and found to be tachypnoeic with mild hypoxia which means rapid breathing with a reduction in the amount of oxygen in the blood.

Following medical review at 09:30am electrocardiogram (ECG) was taken to look at the rhythm and electrical activity of the heart which showed sinus rhythm with partial right bundle branch block (which can be associated with a regular or irregular heartbeat). A chest x-ray showed a left basal consolidation

and blood tests indicated infection with reduced kidney function.

The physiological observations taken indicated a high-risk patient requiring emergency assessment that would usually lead to transfer to a higher-dependency care unit. As sepsis was suspected, access to the vascular system was attained by placing a peripheral cannula to give intravenous antibiotics and there was a plan for a medical review by the duty doctor.

At 10:35 it was decided that the patient should be urgently transferred to the Royal Cornwall Hospital Same Day Medical Assessment Unit (SDMA) with a plan to admit via the emergency department if the test for Covid-19returned as positive as more intensive treatment was required. The transfer was made at 14:45, arriving at SDMA but as no beds available the patient is redirected to the emergency department at 15:23, it is recorded in the transfer notes that the patient has tested negative for covid-19.

The patient became more delirious in the Emergency Department and was being treated for pneumonia until diagnostics identified infected hydronephrosis, an inflammation caused by a blockage in the urinary tract. The patient was awaiting a slot in the emergency operating theatre for ureteric stenting which was needed to avoid kidney damage and drain urine caused by a stone in the ureter (the cause of the back pain).

The decision was made to bring the patient to the intensive care unit for intubation and ventilation and insertion catheters before theatre. On the intensive care unit, a small team was assembled to undertake several

procedures to both prevent further deterioration and prepare the patient for theatre. The team consisted of one doctor and two nurses who are wearing personal protective equipment (PPE) and respiratory protective equipment (RPE) as the covid status although testing negative on the SAMBA swab taken at West Cornwall Hospital, this was not accepted by teams at Royal Cornwall Hospital and a further SAMBA test was required. This is required as the patients admitted to critical care are highly vulnerable to infection due to their clinical status and therefore enhanced covid testing is required. A side room had been identified to isolate the patient due to the uncertainty of the covid status. A side room is used to allow critical care to be delivered to the patient while their covid test result was processed. This is a positive action for the patients care, but side room conditions do change the working environment as there is less space for procedures.

There were five key procedures taking place simultaneously, due to the placement of the central venous catheter, vascular catheter and nasogastric tube, a chest x-ray was required was confirm placement meaning a radiographer entered the room. The patient was collected for theatre earlier than anticipated, handover was given to the anaesthetic team towards the end of completing procedures to expedite the transfer. The patient returned to the critical care unit from theatres for further clinical management.

On the 30/06/2022, the patient no longer required the central venous catheter or vascular access catheter, and these were removed. On removal of the line, a retained guidewire was discovered in the central venous catheter. The wire was inspected and confirmed to be intact, as a precaution a chest x-ray was taken, and no fragments could be seen. The patient was informed of the incident which was also reported on the Trust incident system. The patient did not come to harm as a result of the retained guidewire; however, this is classed as a Never Event by NHS England and therefore further investigation

commence.

Summary of findings, safety actions and recommendations

- The investigation found multiple factors contributed to the unintended retainment of the guidewire.
- Following review of the patient and recognising the need to take prompt action to stabilise and prepare for theatre, the team decided to transfer the patient to the critical care unit for multiple procedures to occur. The unintended consequence of this was the cognitive load this placed on the critical care doctor who was managing multiple patients within critical care and the outreach team. Whilst there is no recommendation associated to this finding, it is important to recognise the pressures clinicians are working under. During the investigation, staff commended the action the Doctor took for this patient who was very clinically unwell and for the standard of their work in caring for this patient.
- The investigation found a key influencing factor was the patients unknown Covid-19status. This restricted the number of staff who could be contact with the patient and the wearing of personal protective equipment caused communication difficulties amongst the team. The SAMBA test taken at West Cornwall Hospital could not be accepted by the theatre team, the second SAMBA result was not available until 18:20, approximately two hours after the sample was collected in the emergency department.

Recommendation 1: Where a transfer to critical care is required, the need for enhanced COVID-19SAMBA testing should be anticipated and undertaken to avoid delays and clinical risks associated with enhanced level 3 personal protective equipment and respiratory protective equipment.

- Due to the unknown Covid-19status of the placement of five medical devices was the responsibility of a single doctor, rather than the usual practice of two doctors. The doctor placed all five devices with

minimal assistance from the nursing team and the wider team outside of the side room. The clinical team felt the doctor worked methodically through the procedures and requested help when required such as requesting x-rays, however the team did not alter ways of working to provide a two-person verbal check on the removal of guidewires.

- Two devices, the central venous catheter and the vascular catheter were placed concurrently in the same vein (internal jugular vein). There was no verbal confirmation between the team that the guidewires had been removed. In addition, this investigation has found that the completion of safety checklists at the time access lines are inserted was not a cultural norm in the critical team. This means that the written prompt to ensure guidewires have been removed at the time of the procedure was not effective.

Recommendation 2: The safety checklist including verbal confirmations of guidewire removal must be completed by the team placing medical devices at the time of the procedure.

- The initial chest x-ray request to check the placement of the catheter provides little referral information and does not reflect the number of medical devices the radiologist would see on the image. The chest x-ray shows internally placed medical devices, but also monitoring wires which are resting externally on the skin. The image demonstrates the guidewire sat in the inferior vena cava, a large blood vessel in the thorax/abdomen which was not seen by the radiologist amongst the other devices. The radiologist did additionally and correctly identify the nasogastric tube was incorrectly placed and prompted action.

Recommendation 3: Referrals to radiology to check placement of devices must include sufficient information regarding the number of devices in situ.

Recommendation 4: Additional equipment, such as monitoring wires, should be moved outside of the field of view on chest x-rays to increase visibility of medical devices which require a placement check.

- The COVID-19 status of the patient was confirmed as negative at 18:20, this meant restrictions regarding the number of staff contacts and the level of PPE was reduced changing the work environment and the demand on the critical care team, particularly the doctor. The anaesthetic team arrived earlier than expected, therefore handover commenced earlier than anticipated and whilst procedures were being completed as the focus was to get the nasogastric tube re-sited and transfer the patient to theatres as soon as possible. The central lines were verbally confirmed as safe for use during the handover and no problems were found with the central line during surgery or on the critical care unit following surgery.

Recommendation 5: There should be a pause between clinical procedures to provide an accurate situational report and a structured handover of care to ensure full information is given.

Recommendation 6: There is an opportunity for learning on a wider scale than RCHT and Cornwall. Patient Safety, Radiology and Intensive Care Specialties should consider professional forums where anonymised information can be shared to prevent an incident in other localities.