



Patient Safety Alert

Management of life threatening bleeds from arteriovenous fistulae and grafts

12 November 2018

Alert reference number: NHS/PSA/RE/2018/007

Resource Alert

Haemodialysis removes the waste products and extra fluid that build up in the blood of those whose kidneys no longer function properly and relies on easy access to a patient's blood vessels.¹ Preferred methods for permanent access are an arteriovenous fistula (AVF) or arteriovenous graft (AVG)² that provide a connection between the artery and vein. Connecting an artery to a vein allows for an increased blood flow rate and faster removal of toxins from the blood during dialysis.

Blood loss from an AVF or AVG can usually be controlled by applying pressure to the site. However, rarely bleeds do not resolve and, due to the rate and volume of blood loss, become life threatening. Life threatening bleeds (LTB) can occur in the patient's home or in hospital and it is therefore vital that patients, carers and healthcare professionals understand what action to take in such circumstances.

A search of incidents reported to the National Reporting and Learning System (NRLS) and/or the Strategic Executive Information System (StEIS) in a recent three-year period identified 11 reports of life-threatening bleeds (LTB) from AVF/AVG sites; in seven of those reports the patient died.

A sample report reads:

"Known renal dialysis patient attended ED [date] bleeding [from AVF] sutured and pressure bandage applied. Noted bleeding from site during dialysis on [date + 9 days], pressure dressing reapplied and checked no bleeding apparent, patient returned home. Found bleeding at [time] by [family member], ambulance to ED, subsequent cardiac arrest and sadly died."

Although LTB can occur without warning, there are cases where patients presenting to healthcare had warning signs of possible LTB from their AVF or AVGs that were not recognised. The British Renal Society Vascular Access Special Interest Group, supported by the Vascular Access Society of Britain and Ireland, has developed resources available via this alert's resource page on the [NHS Improvement website](#). The resources help staff, carers and patients recognise these warning signs, such as changes in skin appearance or condition, that could indicate a risk of LTB and provides a tool that enables staff to risk assess AVF and AVGs prior to use. Resources are also available that assist patients, their families and carers, and healthcare staff to promptly and effectively manage a LTB should it occur.

Actions

Who: All organisations providing NHS funded-care where patients with AVF/AVGs may attend, including GP services and ambulance trusts

When: To commence immediately and be completed by no later than 13 May 2019

- 1** Identify a senior clinical leader in the organisation to lead the response to this alert.
- 2** Develop an implementation plan to ensure the availability of local guidance that incorporates the advice in the British Renal Society's resources for the detection and management of LTB.
- 3** Use local communication strategies (such as newsletters and awareness campaigns, etc) to ensure that all relevant staff and patients are aware of and have access to these resources.

Sharing resources and examples of work

If you know of any resources or examples of work developed in relation to this alert that you think would be useful to others, please share them with us by emailing patientsafety.enquiries@nhs.net

Alert reference number: NHS/PSA/RE/2018/007

Resource Alert

Patient safety incident data

The NRLS was searched for incidents reported to have occurred between 1 May 2015 and 30 April 2018 if exported to the NRLS on or before 20 Aug 2018 (search ref: 3993 and 4076) that had been reported as causing moderate harm, severe harm or death and containing combinations of free text terms related to AVF/AVGs and bleeding.

StEIS was searched for Serious Incidents reported to have occurred between 20 May 2015 and 30 April 2018 that contained the free text term fistula.

In total, and ensuring no double counting, 11 incidents were identified as describing LTB from AVF/AVGs. In seven of these, reporters stated that the patient died.

Resources

- The resources to support the implementation of this alert are available via the NHS Improvement website <https://improvement.nhs.uk/resources/resources-to-support-management-of-LTB-from-arteriovenous-fistulae-and-grafts>

References

1. Kidney Research UK, Health information on haemodialysis <https://www.kidneyresearchuk.org/health-information/haemodialysis>
2. UK Renal Association, Clinical practice guideline, Vascular access for haemodialysis (6th edition) <https://renal.org/wp-content/uploads/2017/06/vascular-access.pdf>

Stakeholder engagement

- British Renal Society Vascular Access Special Interest Group (BRS SIG)
- Vascular Access Society of Britain and Ireland (VASBI)
- National Patient Safety Response Advisory Panel (for a list of members and organisations represented on the panel, see improvement.nhs.uk/resources/patient-safety-alerts/)

Advice for Central Alerting System (CAS) officers and risk managers

This alert asks for a systematic approach to deciding how your organisation implements the recommendations for managing LTBs from AVF and AVGs, and therefore needs co-ordinated implementation rather than separate action from individual teams or departments.

If you are unsure who will co-ordinate implementation of this alert, CAS officers in acute trusts should seek initial advice from lead consultants, specialist nurses or matrons in renal medicine who will be able to identify the key individuals needed to lead and co-ordinate implementation. CAS officers in ambulance trusts and providers of NHS 111 or urgent care services should seek advice from any senior clinical colleague.

General practices should identify a clinician to co-ordinate their practice's response to this alert, including ensuring reception staff as well as clinical staff are aware of the actions required.