

Recommendations for Managing Life-Threatening Bleeds from AV Fistulae / Grafts

Due to several reported incidents of life-threatening bleeds (LTB) from arteriovenous fistulae (AVF) and grafts (AVG), the British Renal Society Vascular Access Special Interest Group (BRS SIG) and the Vascular Access Society of Britain and Ireland (VASBI) have compiled the following recommendations:

This work is related to LTB that do not resolve with 'normal' pressure applied to the bleeding site. These recommendations are not related to minor bleeds from cannulation sites or venous needle dislodgement. LTB can develop from cannulation sites or other areas on the AVF / AVG and can become rapidly life threatening due to the volume of blood lost. It is a traumatic incident for patients, their family, friends and renal unit staff alike.

The main aims are to prevent LTB and manage it effectively when it occurs, so that it does not result in catastrophic harm to patients. It is important that patients, carers and frontline health care professionals are aware of the appropriate actions in the event of an unexpected bleed. Whilst this is a rare event, instigating the correct action promptly is critical to ensure it does not result in loss of life. Due to the rarity of this event, with the majority of people with an AVF or AVG not experiencing a life-threatening bleed, any information and recommended actions should be short, succinct and easy to remember over long periods of time.

Prevention

Prevention of LTB from AVFs / AVGs is of the utmost importance.

- Avoid area puncture cannulation of AVFs / AVGs.
- **Be aware of warning signs of an increased risk of a LTB from an AVF / AVG:**

Any non-healing scab / wound over the AVF / AVG	Prolonged bleeding post haemodialysis or bleeding in between dialysis sessions
Aneurysms that are increasing in size, either at cannulation sites or elsewhere	Shiny, thin skin over the AVF / AVG, particularly over aneurysms
Signs of infection – redness, swelling, pain, discharge or pus	Other skin integrity issues in the vicinity of the AVF / AVG

- Ensure you have clear and rapid referral pathways for patients with any warning signs of a potential LTB from their AVF / AVG.
- Patients, carers and haemodialysis staff should be aware of the warning signs of LTB, so that changes to an AVF or AVG are detected and addressed promptly.
- All haemodialysis staff, patients and carers should be aware of the need to report these warning signs as a matter of urgency.
- Photographs can be used to monitor changes.

Management

- Patients, carers, transport staff and emergency care staff should be educated about the action to take in the event of a LTB from an AVF / AVG.
- **Patients should dial 999 immediately**, for any bleeding which soaks through a dressing despite direct pressure.
 - The priority for patients in this situation is to get help
 - This should **not** be delayed whilst trying to stop the bleeding, as loss of consciousness can occur quickly in a LTB
 - The priority is to stop the bleeding, not preserve AVF or AVG function.

- Once help from the emergency services has been initiated, patients should continue to apply direct pressure to the bleed.
- All patients experiencing a spontaneous bleed from their AVF/AVG or felt at immediate risk of a bleed should be seen urgently by a surgeon who specialises in vascular access before they leave hospital.

Do's and Don'ts

- If easily available, **a small, rigid object (e.g. large bottle top, hollow side down) can be used to apply pressure** over the bleeding site. This ensures pressure is localised to the area of the bleed.
- Patients should be advised **not to use a large absorbent item**, such as a towel, as this disperses pressure reducing its effectiveness.
- **We do not recommend** the supply of tourniquets to patients to manage LTB.

We recommend units locally record / audit the following:

- The number of incidents of mortality related to LTB from AVF / AVG
- The number of LTB from AVF / AVG that do not result in mortality
- The number of AVF / AVG that display warning signs of LTB and are referred due to these signs for further assessment.

This data should be reviewed locally and can help units identify trends in occurrence, aiding detection of potential LTB of AVF / AVG earlier.

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