

Life Threatening Haemorrhage (LTH) – turning a negative into a positive

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Introduction

In July 2018, a chronic haemodialysis patient suffered a cardiac arrest and subsequent death, following a massive haemorrhage from her left brachio-cephalic AV fistula. She was 61 years old and had been dialysing for 10 years. Prior to her death she had been thoroughly assessed and reviewed by the vascular access surgeons, having had two herald bleeds from her fistula. It was crucial for both staff and patients to learn from this tragic event.

Following MDT meetings, a programme of education was developed and implemented.

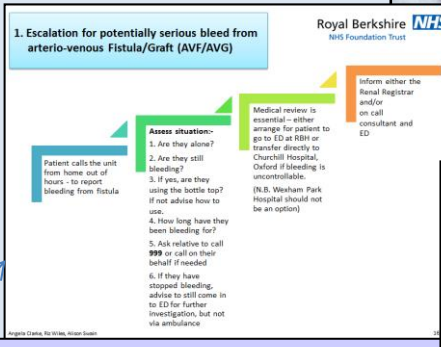


Screen shots from the training DVD we produced - educating all staff to know what to do in the event of LTH

Emergency care packs given out to all patients, with instructions on what to do



We produced a poster for patients, now displayed in all our dialysis units



Signs and symptoms	Score	Actions
<ul style="list-style-type: none"> No spots larger than the needle sites No pain or raw swelling No increased area No aneurysms No erythema Normal bruit / thrill No hardness over A/VF 	0	No action required
<ul style="list-style-type: none"> No pain or raw swelling No increased area No spots larger than the needle sites No erythema Normal bruit / thrill No hardness over A/VF Aneurysms present and stable <ul style="list-style-type: none"> Not increasing in size Not at entry of vein over aneurysms 	1	Monitor Consider photograph AVF/AVG for reference Document aneurysm size, by measuring arm diameter at aneurysm and position Safe to cannulate with other ropaladder or buttonhole
<ul style="list-style-type: none"> No increased area No spots larger than needle sites anywhere on fistula <p>Any of the following</p> <ul style="list-style-type: none"> Pain or discomfort to any area on the AVF/AVG Aneurysms increasing in size or pulsating New aneurysms Thin and shiny skin around A/VF Whistling bruit on auscultation Non-cannulation segments hard on palpation Bleeding around needle site during dialysis Extended post dialysis bleeding >30minutes Erythema >3cm anywhere on the fistula 	2	Refer to Vascular Access Team Previous actions and patient information given on actions and escalation if fistula bleeds at home Review patient's antipainet and anticoagulation Consider swelling erythema Lift arm above head, to assess whether aneurysms drain
<p>Any of previous signs adds any of the following:</p> <ul style="list-style-type: none"> Pain/swelling to AVF/AVG Hardened area on AVF/AVG Spots of needle sites bleed at home Spots of needle sites bleed every 2-3cm Absent or changed thrill on palpation Absent bruit on auscultation Cannulation segments hard on palpation Oozing (not from occluded area) Erythema increased in size 	3	Do not cannulate Urgently refer to Renal / Vascular Team Keep patient in department Previous actions and how post / erythema Take blood cultures if erythema or pus present Take U&Es

If your fistula starts to bleed put a milk bottle top (SOPP STOP*) over the site and apply firm pressure. Tape the top down firmly and then ring 999 to go to Accident & Emergency Department

Pre-cannulation assessment & scoring system - highlights & monitors 'at risk' fistulae. This is regularly audited.

Emergency algorithm – used across all of the renal dept. & ED - all staff are trained and aware

Our ambulance & transport service staff were included

Outcome

Since then we have had two life threatening bleeds. On both occasions the bottle top was used & was successful. Training has made all the difference.

Conclusion

All attempts have been made to try and prevent any further catastrophic incidents of this nature. Continuous scrutiny is however critical in assessing for this complication to ensure the safety of our patients on dialysis.