

## Life Threatening Haemorrhage – turning a negative into a positive.

Mrs Alison Swain<sup>1</sup>, Dr Emma Vaux<sup>1</sup>, Mrs Angela Clarke<sup>1</sup>, Mrs Rizhuanah Wiles<sup>1</sup>, Mrs Kanee Chinapye<sup>1</sup>

<sup>1</sup>Royal Berkshire NHS Foundation Trust, Reading, United Kingdom

### Introduction

In July 2018, a chronic dialysis patient suffered a cardiac arrest and subsequent death following a massive haemorrhage from her left brachio-cephalic arterio-venous fistula. The patient was 61 years old at time of death and she had been dialysing for 10 years. Prior to 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. A programme of education was put into place and implemented.

### Methods

Multi-disciplinary meetings were held to agree what education and resources were required. Education was required across all disciplines to ensure that people were prepared and aware of what to do in such an emergency.

On-going resources developed by the VASBI/BRS sub-committee on life threatening haemorrhage (LTH) were utilised, including fistula advice cards for patients. Small bottle tops, such as a milk bottle top, are recommended for use in stopping a LTH. These were issued to all patients with the advice cards and a pair of gloves in a clear red plastic bag. Instructions were made available as to how to use the bottle top. Sterile tops were sourced for urgent use in the dialysis units.

Posters were designed and printed, which took the form of a storyboard showing a patient with a bleeding problem post dialysis, going on to then safely using the bottle top and transferring to the Emergency department. These are displayed in all units. Discussions with ambulance staff / transport drivers were also carried out.

Meetings were held with the staff involved with the patient at the time and discussions were held over the telephone advice that had been issued. A short staff training video was produced. This comprised three patient scenarios, each increasing in severity and demonstrating what the nurse should do in each case. An escalation algorithm for serious bleeding was developed for use by staff. This, along with the other resources, was rolled out to the staff in the Emergency Department.

Since the incident a new system of scoring fistulae has been introduced using the VASBI/BRS pre cannulation scoring system, to highlight and monitor aneurysmal fistulae. In addition prolonged bleeding post dialysis is also recorded at every session. This is regularly audited.

### Results

Regular Audit for each month highlights patients with prolonged bleeding post dialysis, who need further investigations. One of our patients has successfully used the bottle top prior to needing fistuloplasty.

75% of Staff have been trained and voiced increased confidence in dealing with such a scenario. Continuing work is needed to maintain the level of knowledge and awareness surrounding this topic as staffing inevitably changes. Patients are also prepared for this complication.

### Discussion

As far as is possible, all attempts have been made to try and prevent any further catastrophic incidents of this nature. Continuous scrutiny is however critical in continuing to assess for this complication in the dialysis unit to ensure the safety of patients on dialysis.