

Experience of the implementation of a local safety standard for renal procedures

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Introduction

Dialysis catheter procedures and kidney biopsies are an integral part of kidney patient care. Fortunately major complications are infrequent, however, can and have occurred. Root cause analyses reflect a complex interaction of human factors contributing to an adverse event. In addition to review of adverse incidents, reflection on learning from WHO checklists in surgery and the National Safety Standards for Invasive procedures (a), we have developed a programme of improvement in our renal procedures service.

Methods

We conducted a service evaluation of renal procedures from September 2017 to February 2018. Descriptive statistics were used. Data was collected from our clinical databases, the hospital (PIMS) and renal (Renalware) electronic patient record. We also conducted an informal survey of procedures consultants and trainees. We then developed a multi-disciplinary team (MDT) quality improvement work stream to identify, implement and evaluate service changes.

Results

Identifying the challenge:

September 2017 - February 2018:

256 haemodialysis line insertions (84 tunnelled), 46 line removals.

Complications:

Carotid artery puncture 2

Arrhythmia (self-limiting) 2

Guide wire not advancing 18

Malplacement 1

Haemothorax/Cardiac Arrest 1

124 recorded kidney biopsies – 72 native and 52 transplant;

Complications: 5 insufficient sample, 2 post-biopsy bleeds with one requiring transfusion.

Service review: Major complications were discussed in the Mortality and Morbidity Meeting.

However, we had no embedded process for routine data collection and review of renal procedure activity, including the number of cancelled or postponed procedures or compliance with using the pre-procedure safety checklists.

Concerns were raised regarding possible incomplete data;

Qualitative feedback: highlighted the need for improved communication, planning of the number of procedures scheduled and co-ordination in delivery.

Implementing Service change:

1. Introduction of renal procedure LocSSIP and enhanced renal safer surgery procedure checklists
2. Successful business application for a new dedicated band 6 role in renal procedures
3. Daily email to procedures team with planned procedures for the next day

4. Procedures diary with specific procedure time slots
5. Daily procedures team safety huddle
6. Prospective procedure data collected
7. Monthly workstream to review performance
8. Change in training approach for SPRs: systematic consolidated training periods to competence

Re-audit

September 2019 - December 2019:

149 procedures were performed; 30 native biopsies, 27 transplant biopsies, 24 LA PD tube insertions; 9 LA PD removals; 6 LA PD repositions; 56 haemodialysis lines inserted and 17 removals

100% checklist concordance (including wire removal documentation) for PD/tunneled Haemodialysis catheters.

Complications:

Post biopsy Bleed	2
femoral artery puncture	1
Arrhythmia (self-limiting)	1
guide wire not advancing	1

Qualitative feedback: Improved procedural planning and team satisfaction.

Discussion:

We have worked to standardise and harmonise our approach to renal procedures with pathway and role clarification for our MDT. Essential to our progress has been a dedicated skilled band 6 nurse to lead and facilitate the planning/ delivery of our procedures and implementation of our LocSSIP. Next steps: to continue PDSA process and incorporate routine patient experience data to inform further QI cycles.