The Royal Wolverhampton Hospital NHS Trust

Renal Unit

Guideline Reference: RDU SKinase

Guideline Title: Guideline for the administration of a Syner – KINASE infusion into a tunnelled Haemodialysis Catheter

Date of Implementation: February 2012

Version February 2012 v2

Date of Review: February 2015

Person Responsible for Implementation and review: Renal ANP

Guideline Location: Renal Unit Intranet site

1.0 Introduction

1.1 The Department of Health has a long term strategy for ensuring patient safety in all Healthcare settings (Department of Health 2000) and the National Patient safety Agency plays a key role in the implementation of this agenda.

1.2 Dialysis patients with a Tunnelled Haemodialysis Catheter (THC) used for haemodialysis need to achieve blood flow rates of >300mls/min to optimise dialysis adequacy. Failure to achieve an optimal blood flow rate is a result of either mechanical problems which are often detected in the first few weeks following insertion of the THC, physiological issues such as incorrect dry/target weight, to gradual loss in blood flow caused by a build up of fibrin clots or sheaths around the internal and external aspect of the catheter tip causing occlusion.

1.3 The most common therapy to maintain catheter patency is an antimicrobial lock in between dialyses. If following aspiration of the catheter lumen lock there is either no flow or the blood flow whilst on dialysis worsens with increasing venous pressure and negative arterial pressure, and after exclusion of all other reasons for poor flows, treatment to improve the flow is necessary. Treatments to either unblock the catheter using thrombolytic agents, interventional catheter stripping or total catheter replacement are appropriate.

2.0 Purpose

2.1 Urokinase and other agents have been used to unblock central venous catheters for decades, but up until now, none have ever been licensed for the use in tunnelled haemodialysis catheters.

2.2 Based on past performance of catheters in Wolverhampton, catheter dysfunction is defined as a Qb being consistently below 240 ml/min in a dialysis session.

3.0 Objectives

3.1 To ensure safe administration of anti-thrombolytic agent for malfunctioning Tunnelled dialysis catheter.

3.2 To maintain patient wellbeing, safety and continuing care.

4.0 Detail

4.1 A discussion with the renal medical team or advanced nurse Practitioner, has concluded that an inter dialysis infusion of Syner- KINASE is appropriate. Syner-KINASE® is administered from a signed and in date prescription. Synerkinase should be given a maximum of 3 times. If the line flow rate remains suboptimal the patient should be discussed again with the Consultant Nephrologist regarding further plans.

4.2 Ensure there are no contra–indications to Syner – KINASE infusion (Appendix 1)

4.3 Reconstitute Syner-KINASE® 100,000 IU with sodium chloride 0.9% for injection and add to 100mls sodium chloride 0.9% for injection

4.4 Infuse via an infusion pump into the venous chamber between 2 - 3 hours, at a rate of between 34 - 55mls/hour dependent on time.

4.5 After 30 minutes, of delivered infusion, gradually increase the blood flow to achieve the patients prescribed blood flow rate recording the increments during the infusion.

4.6 Continue to administer the patient’s prescribed anticoagulant regime as normal (heparin, Dalteparin or Tinzaparin).

4.7 Monitor blood pressure and pulse, every 30 minutes and observe for any allergic reactions. Local sensations of warmth, dull aches or pains around treated vessel

- Pyrexia
- Haematuria
- Haemorrhage (STOP INFUSION IMMEDIATELY)
- Hypotension
- Wheezing, chest tightness or difficulty in breathing (STOP INFUSION)
- Skin rashes / urticaria

4.8 Review the blood flow post dialysis and re-assess the situation as required.

4.9 Document actions in the patients nursing documentation. Record the usage of Syner KINASE on the renal database.

5.0 Finance

5.1 The patient will require Syner- KINASE infusion to maintain patency of a non-functioning Tunnelled dialysis catheter. This policy will enable this to be administered either in the main HD unit or at the satellite units preventing the need for the patient to be displaced from their usual dialysis unit to undergo the treatment therefore potentially saving Transportation and extra dialysis costs.

6.0 Training

6.1 There will be no additional training requirements.

7.0 Communication

7.1 The policy will be communicated via the specialty structure and be accessible on the trust intranet

8.0 Maintenance

8.1 The Renal Advanced Nurse Practitioner to co-ordinate the review of this policy

9.0 Monitoring

9.1 The guideline will be audited monthly by the monitoring of any adverse incident reported on Datix within the specialty.

10.0 Equality and Diversity impact

10.1 There is no indication that this policy adversely impacts on equality and diversity

11.0 References

Department of Health (2005) A safer place for patients; learning to improve patient safety. Department of Health. London

Department of Health (2000) NHS plan: a plan for investment for reform. Department of Health. London

BNF – British National Formulary.

Syner-Med Pharmaceuticals Ltd. Surrey. Guideline for the use of Urokinase (Syner – KINASE) for occluded permanent haemodialysis catheters.

12.0 Bibliography

www.dh.gov.uk

www.npsa.nhs.uk

Appendix 1
Contra indications to Syner- KINASE infusion

Do not administer Syner-KINASE® if:	
i.	There is a known hypersensitivity to urokinase or any of the other ingredients of Syner-KINASE®
ii.	The patient has had any recent bleeding such as surgery or tests which could cause re bleeding (within the past 10 days), or a new THC within the last 10 days
iii.	If THC cuff is visible or <2cm from the exit site
iv.	If the dialysis catheter is not a tunnelled cuffed catheter
v.	There is a history of cerebral vascular attack, cardiopulmonary resuscitation (within the past 3 months)
vi.	Intra-cranial or intraspinal surgery (with the past 2 months) / recent head trauma / brain tumour
vii.	Severe uncontrolled blood pressure (200/120mmHg)
viii.	The patient is pregnant or <18 weeks post natal
ix.	There is known ulcerative or intestinal bleeding / heavy vaginal bleeding
x.	Severe liver disease / active acute pancreatitis / oesophageal varices
xi.	Coagulation defects (such as platelet <100; INR >2.5; Hb <8.0g/dL)