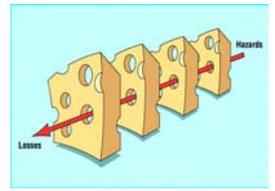


Medicines Governance Project



SAFETY MEMO 6

From: Medicines Governance Pharmacists,

To:

Directors of Pharmaceutical Services / Trust Pharmacy Managers – For action

Dr N Morrow, Chief Pharmacist, DHSSPSNI

Directors of Pharmacy, HSS Boards



For information

23 June 2004

RE: Enoxaparin in patients with severe renal impairment.

There have been a number of medication incidents reported recently involving the use of enoxaparin in patients with severe renal impairment (creatinine clearance less than 30ml/min) who, as a result of treatment have suffered a haemorrhage. Following a review of the incidents it appears that there may be a lack of awareness of the need to consider renal function when using enoxaparin.

We wish to bring this issue to your attention in order that each Trust may take action to ensure:

- there is sufficient awareness of the potential for this type of incident to occur in this patient group;and
- a Trustwide decision is taken on the choice of heparin in patients with severe renal impairment which includes advice on appropriate dosing and monitoring.

Attached for your information is a summary of available dosing guidelines for enoxaparin in renal impairment which may be useful in your decision making process.

Please do not hesitate to contact your Medicines Governance Pharmacist for further information.

Tracey Boyce

Team Leader,

On behalf of the Project Team.

Summary of Enoxaparin dosing in renal impairment

The table below outlines the information available to guide dosing of enoxaparin in renal impairment.

Source of information	Information	
UK, SPC Clexane® April 2003	No adjustment of the prophylaxis dose is required. Patients with severe renal impairment should be closely monitored when receiving treatment doses.	
Australian, SPC Clexane® 2 nd May 2002	A dosage adjustment is required for patients with severe renal impairment (CrCl <30ml/min) according to the following tables. The following dosage adjustments are recommended for the prophylactic dosage ranges.	
	Normal dosing	Severe renal impairment
	40mg once daily	20mg once daily
	20mg once daily	20mg once daily
	The following dosage adjustments are recommended for the treatment dosage ranges.	
	Normal dosing	Severe renal impairment
	1mg/kg twice daily	1mg/kg once daily
	1.5mg/kg once daily	1mg/kg once daily
Although no dosage adjustment is recommended in patients with moderate (creatinine clearance 30-50ml/min) and mild (creatinine clearance 50-80ml/min) renal impairment, careful clinical monitoring is advised.		
Irish SPC Clexane® March 2003	As Australian.	
USA SPC Lovenox® December 2003	Although no dose adjustment is recommended in patients with moderate (CrCl 30 –50 ml/min) and mild (CrCl 50-80ml/min) renal impairment, all such patients should be carefully observed for signs and symptoms of bleeding. The recommended prophylaxis and treatment dosage regimens for patients with severe renal impairment (CrCl < 30ml/min) are described in the following table.	
	Indication	Dosage Regimen
	Prophylaxis in abdominal surgery.	30mg administered SC once daily
	Prophylaxis in hip or knee replacement surgery.	30mg administered SC once daily
	Prophylaxis in medical patients during acute illness.	30mg administered SC once daily
A 30mg pre-filled syringe is available		

	Prophylaxis of ischaemic complications of unstable angina and non-Q-wave myocardial infarction, when concurrently administered with aspirin.	1mg/kg administered SC once daily
	Inpatient treatment of acute deep vein thrombosis with or without pulmonary embolism, when administered in conjunction with warfarin sodium.	1mg/kg administered SC once daily
	Outpatient treatment of acute deep vein thrombosis without pulmonary embolism, when administered in conjunction with warfarin sodium.	1mg/kg administered SC once daily
The Renal Drug Handbook 2 nd Ed	<p>GFR (ml/min) 20-50 – Dose as in normal renal function 10-20 – Dose as in normal renal function for prophylaxis <10 – Dose as in normal renal function for prophylaxis only</p> <p>LMWH are renally excreted and hence accumulate in severe renal impairment. Whilst the doses recommended for prophylaxis against DVT and prevention of thrombosis formation in extracorporeal circuits are well tolerated in patients with ESRF, the doses recommended for treatment of DVT and PE have been associated with severe, sometimes fatal, bleeding episodes in such patients. Hence the use of unfractionated heparin would be preferable in these instances.</p>	

SPC = Summary of Product Characteristics
LMWH = Low Molecular Weight Heparin
DVT = Deep Vein Thrombosis
ESRF = End Stage Renal Failure
PE = Pulmonary Embolism