Guideline for Administration of Subcutaneous Furosemide in the Community Setting in Bradford, Airedale, Wharfdale and Craven.

Indications for Use

For palliative patients requiring parenteral diuretics and:

- their preferred place of care* is own home, nursing home, hospice or residential home
- poor or no venous access
- to allow discharge from hospital when the patient has an ongoing need for parenteral diuretics

*This assumes that this is an appropriate option and hospital admission would not confer additional benefit at the patient's stage of illness, or the patient refuses admission after due discussion of the options.

Recommended Infusion Sites

Upper chest
Upper anterior aspect of arms

Sites are restricted in heart failure patients because of probable oedema. Also sites to be avoided are bony prominences and areas where tissue is damaged, thus decreasing absorption. If possible, use a site away from areas where tattoos are present as these may mask site reactions.

Follow BDCt Syringe driver policy for use of syringe driver.

NB If there is very poor peripheral perfusion in the terminal stage, subcutaneous absorption may be limited and stat doses of intramuscular diuretics or alternative measures such as antimuscarinics, buccal nitrates or sedation may be needed to alleviate terminal pulmonary oedema.

Recommended Dose

Patient's should have recent urea and electrolytes prior to commencement of Subcutaneous Furosemide and repeated as required according to clinical assessment.

Use the previous oral 24 hour requirement as a start dose and titrate up or down according to response, reviewed every 24 hours. For example, if the patient has been taking 120mg oral Furosemide in 24 hours, start on 120mg/24 hours in the syringe driver. It is important to recognise that this approach is entirely empirical as there is no published literature to help guide the clinician with this regard and this recommendation is based on clinical experience of the local team to date.

If, on review, subcutaneous administration appears to be ineffective with regard to symptom control, a clinical reassessment and judgement will be repeated and the future management plan negotiated with the patient and family as appropriate.

Drug stability – Exposure to light may cause degradation and discolouration, the solution should not be used if a yellow colour is present. Furosemide 10mg/mL in polypropylene syringes is stable at 25^{o}C in normal light for 24 hours.

*** Furosemide MUST NOT be mixed with any other medications.**

If required, dilution is with 0.9% Sodium Chloride. In practice the maximum dose administered is 250mg/25ml over 24 hours however a diluent may not always be necessary. Within BDCt syringe driver policy, dilution is encouraged.

Choose the appropriate syringe size (Usually 20ml or 30ml is recommended) for the volume to be infused. It is safe to infuse the manufactured concentration. The solution should be infused following the local syringe driver guidelines.

The patient, relatives and carers should be given an explanation of how this method of drug administration benefits the individual patient and consent, when possible, from the patient or carers if the patient is too unwell before administration is commenced.

Give patient the explanatory leaflet which has been produced by the syringe driver manufacturer. If the syringe driver does not appear to be working, the carers/patient should be advised to contact the named District Nurse, through their GP. For further advice contact the named Heart Failure Nurse Specialist in normal working hours, GP or contact the Palliative Care Consultant at Marie Cure on: 01274 337000 or Manorlands on: 01535 642308

Contra-indications and side effects

As listed in the BNF. In situations of symptom management/palliative care the prescribing physician will judge the best interests of the patient.

Advantages to the patient

It gives the patient the option to stay at home with effective symptom management. It avoids the necessity of intermittent intravenous or intramuscular injections of Furosemide and the siting of a cannula. The syringe drivers used are lightweight, allow mobility and continued independence. The twenty-four hour infusion reduces intrusion into the patient's privacy. It allows community staff to plan care around the timing of the infusion change. It allows the patient to be discharged from hospital when there is a continuing need for parenteral therapy.

Current Doses of Furosemide Available

Furosemide 250mg/25ml solution for injection (equals 10mg/ml)

Furosemide 50mg/5ml solution for injection

Furosemide 20mg/2ml solution for injection

References available

To date few references are available pertaining to administration of subcutaneous Furosemide.

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