

PALLIATIVE CARE

Continuous Subcutaneous Frusemide in End-stage Heart Failure

Patients with advanced chronic heart failure (CHF) are less able to compensate for their poor myocardial function, and develop signs and symptoms of fluid overload with weight gain, peripheral, intra-abdominal, and pulmonary oedema.

As things get worse there may also be worsening renal function and increasing diuretic resistance, resulting in repeated admissions for parenteral diuretics. Patients who do not die of co-morbid disease or sudden cardiac death, develop progressive end stage CHF. Currently most of these patients are admitted to hospital for IV frusemide.

It has already been shown by a Cochrane review that the continuous infusion of IV frusemide is superior to intermittent IV injection, especially when there is developing diuretic resistance.

The idea of continuous *subcutaneous* frusemide is novel, but this study by Zacharias et al. suggests that it may be an effective alternative to the IV route.

Continuous subcutaneous infusion of medication via a syringe driver is well established in the community, and provides better symptom control in the care of dying people. Its use for the delivery of frusemide would potentially allow patients with advanced CHF the choice to stay at home (including nursing home) rather than being admitted to an acute hospital bed.

The dose of frusemide for subcutaneous infusion was calculated by assuming that the same oral daily dose (range 40 to 250 mg) would give, in effect, an increased dose (because of the relatively poor oral absorption of frusemide). The median number of days per episode was 10.5 (range 2 – 48).

The aims achieved were as follows:

- Prevention of hospital admission, or facilitation of home discharge from hospital (93%)
- Stabilisation of fluid overload (70%), with median weight loss of 5.6kg.
- Prevention of symptoms during the dying phase (100%).

It is therefore concluded that for patients with advanced CHF who wish to avoid hospital admission, who need a parenteral diuretic, who have lost, or dislike the IV route, then continuous subcutaneous frusemide may be useful in providing symptom control in their preferred place of care.

Reference: Zacharias et al. Is there a role for subcutaneous furosemide in the community and hospice management of end-stage heart failure? Palliative Medicine Vol 25 Number 6 September 2011

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