

Guideline: Antimuscarinic Drugs for Noisy Secretions

Pathophysiology and general management

Noisy respiration is caused by air turbulence due to accumulated secretions in the oropharynx or bronchial tree in a patient who is unable to clear secretions through coughing and/or swallowing. At the end of life it is sometimes (crudely) called “death rattle”. The distress to relatives is much reduced when time is taken to explain the cause of the rattle and they are offered ongoing support.

Noisy breathing can be reduced by a number of measures which reduce postural pooling or lower the ventilatory rate.

The approach depends on whether the patient is still reasonably well, awake and alert, or in the final stages of their illness.

Occasionally gentle suction is needed. Often this is only tolerated and humanely offered to the wakeful cooperative patient.

Drug treatments - Pharmacology

Drugs are used to reduce the rate of production of secretions, but they will have no impact on existing secretions. For this reason, an antisecretory drug is best started sooner rather than later. There will be less impact when the rattle is secondary to pneumonia or pulmonary oedema.

Antisecretory drugs are antimuscarinic agents (anticholinergics) derived from or related to the natural belladonna alkaloids, atropine and hyoscine. The following agents are commonly employed:

- Hyoscine hydrobromide (non-proprietary)
- Hyoscine butylbromide (Buscopan)
- Glycopyrronium (Robinul).

Each of the three drugs has slightly different characteristics in terms of speed of onset and duration of effect. The profile of central and peripheral side-effects may convey advantages or disadvantages in certain situations.

In the patient who is awake and relatively well

Hyoscine butylbromide is the drug of first choice. It is available in tablet form, 10 - 20mg as needed or regularly, but absorption and so effectiveness is limited. It is better given as subcutaneous injection, 20mg as needed, or by continuous subcutaneous infusion 60 – 180mg/24 hours. Glycopyrronium is an alternative.

Peripheral antimuscarinic effects, including visual, gastrointestinal, cardiovascular and urinary problems, can be more troublesome, but sedation should not be.

When a patient is very close to death.

Hyoscine hydrobromide may be used, as sedation should, by then, be less of an issue, as may other side effects.

It can be administered as stat doses of 200 – 400 mcg subcutaneously, and by continuous infusion 1.2 – 2.0mg/24 hours.

This is the drug on which we have standardised for the “end of life pathway”.

It is also available as a transdermal patch, ScopodermTTS, 1mg/72 hours. Effectiveness is less predictable and side effects no less than with the injection.

Cost considerations

None of the antimuscarinic drugs is expensive, though hyoscine butylbromide is particularly cheap at 20 pence per 20mg ampoule.