Hiccups

KEY POINTS

- Hiccups are repeated involuntary contractions of the diaphragm and respiratory muscles
- Gastrointestinal causes are the most common cause of hiccups
- Hiccups can be extremely distressing and can lead to fatigue and sleep disturbance
- Treatment should include both pharmacologic and non-pharmacologic strategies

ASSESSMENT

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- A good clinical assessment is important to try and identify the underlying cause of the hiccups
- Finding the cause (if possible) can often help to direct treatment. However, often the cause is not known

- Common causes of hiccups in palliative care patients include:
  - Gastric or abdominal distension from obstruction, tumour, gastroparesis, ascites, or hepatomegaly
  - Irritation of the vagus nerve or diaphragm
  - Gastritis, ulcer, or oesophagitis
  - Gastro-oesophageal reflux disease
  - Local spread from tumours (gastric, oesophageal, peritoneal, from lymph nodes)
  - Infection
  - Other problems involving the thorax or abdomen: pneumonia, pericarditis, or pancreatitis:
  - Medications: corticosteriods, benzodiazepines, barbiturates, tramadol

- Metabolic problems: uraemia, hyponatraemia
- Intracranial disease: brain stem tumours, increased intracranial pressure

MANAGEMENT

- Consider treatment of the underlying cause

Consider if the patient is well enough to benefit

- Remove possible offending medications
- Correct electrolyte imbalances and treat infections
- If due to gastro-oesophageal reflux, provide treatment such as **omeprazole 20 mg PO daily or famotidine 10-20 mg BID**
- If due to gastric distension, encourage smaller, more frequent meals
  - Use a prokinetic medication such as **metoclopramide 10 mg PO QID** or **domperidone 10 mg PO QID**
    - Use with caution in patients with a history of cardiac arrhythmias or prolonged QT or those on several QT-prolonging medications
  - **Simethicone/dimethicone-containing agents 5 mL PO QID** and PRN may help to decrease gas and distension

- **Domperidone 0.4-0.8 mg/kg/dose PO TID (maximum 10 mg/dose)**

General Non-pharmacologic Measures (Many Different Measures Have Been Suggested)

- If a cause cannot be identified or corrected, then general measures should be used:
- Eating 1-2 teaspoons of sugar or crushed ice
- Lightly rubbing the midline of the soft palate for 1 minute
- Long, slow slips of water
- Breath holding or rebreathing into a bag

General Pharmacologic Measures

- Note that many medications have been tried, but very little evidence of efficacy exists:
  - Baclofen 5-10 mg PO TID has been shown to be effective in intractable hiccups
  - Gabapentin 300 mg PO qHS can titrate up to 3600 mg/day, increase dose every 3-5 days
  - Nifedipine 10-20 mg PO BID-TID
  - Haloperidol 1-2.5 mg every 4-12 hours PO/Subcutaneous/IV
  - Anticonvulsants (starting doses):
    - Phenytoin 200-300 mg PO qHS
    - Carbamazepine 100-200 mg PO BID
    - Clonazepam 0.5-1 mg PO BID
  - Lidocaine infusion 0.5-2 mg/kg/hr Subcutaneous or IV can be useful for intractable hiccups
- Acupuncture, vagal nerve stimulation, and phrenic nerve ablation are also sometimes considered in cases of refractory hiccups

PITFALLS/CONCERNS

- The same agents that are used to treat hiccups may also cause them
- Although sometimes used to treat hiccups, some reports suggest that benzodiazepines may cause or exacerbate hiccups
- Metoclopramide and haloperidol (and other neuroleptics) can cause extra pyramidal reactions, so consider adding diphenhydramine (or another antihistamine) to reduce the likelihood of extrapyramidal effects

PALLIATIVE TIPS

- Gastric distension and gastro-oesophageal reflux disease are the most common causes of hiccups, and a trial of treatments as outlined above should be considered
- Combinations of agents are sometimes required for intractable hiccups

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