- sputum
  - thick, yellow or green (possible bronchiectasis or bronchitis)
  - blood stained (possible lung cancer or TB)
  - rust coloured (possible pneumonia)
  - frothy and pink–red (possible heart failure)
- recurrent nocturnal cough (possible asthma)
- pain on inspiration (possible pleurisy or pneumothorax)
- suspected adverse drug reaction
- cough that recurs on a regular basis.

Recommend treatment

G. Treatment options

Antitussives (cough suppressants)

Antitussives have a limited role in the treatment of acute non-productive cough. They should not be used in productive coughs and should be avoided in asthma and chronic obstructive pulmenary disease. They include dextromethorphan, and pholcodine (generally the antitussives of choice if a cough suppressant is deemed necessary), codeine and dihydrocodeine.[2,5,7,8]

Dextromethorphan may contribute to serotonin syndrome and should not be taken with serotonergic medications or with, or within 14 days of, a imonoamine oxidase inhibitor.[7–9]

Expectorants

Expectorants' efficacy is still unproven. They include guaifenesin, ammonium salts and senega. Ammonium salts are contraindicated in hepatic and renal impairment.

Use of cough mixtures containing both an antitussive and an expectorant is not recommended.[2,8]

Other Ingredients

Other ingredients in cough medicines include:

- *Bromhexine.* A mucolytic bromhexine may reduce frequency and duration of exacerbations in some patients with chronic bronchitis or chronic onstructive pulmonary disease.[8] It may disrupt the gastric mucosal barrier, so should be used with caution in patients with a history of peptic ulcer disease.[7–9]
- *Antihistamines*. non-sedating antihistamines are less effective because of their less pronounced anticholinergic actions. May be useful if cough is associated with postnasal drip or allergic rhinitis but avoid if cough is productive (risk of viscid mucus plugs).[8]
- *Decongestants*. These may be useful if patient has nasal congestion, but should otherwise be avoided.[8] Contraindicated in hypertension, hyperthyroidism, coronary heart disease, diabetes and with concurrent imonoamine oxidase inhibitors.[7–9]

H. Treating cough in children[2,4,5,8,10–12]

Recent information suggests that cough medication for children is no better than placebo. The function of the cough reflex is to clear secretions from the respiratory tract and retention of these secretions may lead to potentially harmful airway obstruction. Rarely, a child may become exhausted or have insomnia or repeated vomiting due to cough. In these circumstances the use of a cough suppressant may be helpful. The following guidelines should be followed:

- Medication should be supplied only once it has been established that there is no underlying condition requiring referral and/or specific therapy.
- Cough and cold medicines containing sedating antihistamines, cough suppressants, expectorants or decongestants should not be given to children under two years of age.
- Preparations containing camphor should be avoided in children: there is a risk of adverse effects on the central nervous system such as seizures or respiratory failure.
- Alcohol-containing syrups should not be used: alcohol may sedate the child and suppress the cough reflex.
- Some cough syrups may contain a high level of sugar; if given in excess, they can cause osmotic diarrhoea.
- Demulcents provide a safe alternative; paediatric simple linctus may provide a placebo effect in children (however, its high syrup content should be noted).
- Syrups should not be given to exclusively breastfed infants: the sugar they contain may suppress an infant's appetite for breast milk.

Provide counselling supported by written information

I. How to use the medication

Once a medicine is selected the patient should be told how to use it, the correct dose, and any specific precautions[8]: