Contents

Chapter 3

Pharmacological intervention in PONV: medical evidence for anti-emetic therapy and review of side-effect profiles

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Introduction

The basis for the pharmacological control of PONV centres around the perceived mechanisms and receptors involved in the sensory, processing and motor actions responsible for its production. The proposed mechanisms involved in this process are ever-evolving, as we gain a better understanding of the interrelationships between physical, chemical and emotional sensory inputs that result in the processes of vomiting and nausea. It has equally become apparent that the mechanisms cannot be the same for the two modalities and that they are not of necessity linked – with nausea possible without vomiting or retching (an unproductive vomiting act) and vice versa.

Sensory inputs

As regards the specific area of PONV, it is probably acceptable to use a simple scheme of receptor interaction to explain why certain drugs may lead to PONV while others may reduce or eliminate it. The main afferent inputs that may stimulate PONV are shown in Figure 3.1. Although the vomiting centre has little anatomical meaning, it is a physiological concept that has been accepted as a representation of the central processing unit for vomiting (though possibly not for nausea). Further details of the physiology of PONV can be found in Chapter 2.

The main afferent inputs are: opioids, anaesthetic agents, vestibular and oropharyngeal stimulation, gastrointestinal receptors, and psychological inputs. Many of these inputs are influenced by anaesthesia or the peri-operative period.

Opioids and pain

Opioids are potent stimulators of nausea and vomiting and a common component of most general anaesthetics. They are also widely used in the post-operative period to treat pain. Avoidance may be helpful but an alternative analgesic regimen must be employed as pain itself is a potent stimulator of nausea and vomiting. The move in recent years towards an increased use of regional techniques for post-operative pain management has led to some improvements.

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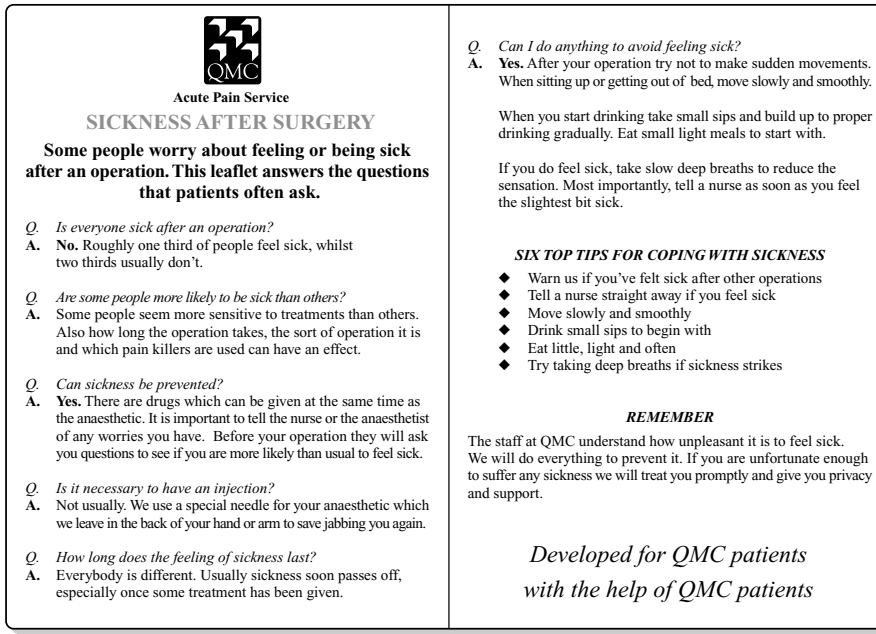


QMC

Acute Pain Service

SICKNESS AFTER SURGERY

Some people worry about feeling or being sick after an operation. This leaflet answers the questions that patients often ask.

Q. *Is everyone sick after an operation?*
A. **No.** Roughly one third of people feel sick, whilst two thirds usually don't.

Q. *Are some people more likely to be sick than others?*
A. Some people seem more sensitive to treatments than others. Also how long the operation takes, the sort of operation it is and which pain killers are used can have an effect.

Q. *Can sickness be prevented?*
A. **Yes.** There are drugs which can be given at the same time as the anaesthetic. It is important to tell the nurse or the anaesthetist of any worries you have. Before your operation they will ask you questions to see if you are more likely than usual to feel sick.

Q. *Is it necessary to have an injection?*
A. Not usually. We use a special needle for your anaesthetic which we leave in the back of your hand or arm to save jabbing you again.

Q. *How long does the feeling of sickness last?*
A. Everybody is different. Usually sickness soon passes off, especially once some treatment has been given.

Q. *Can I do anything to avoid feeling sick?*
A. **Yes.** After your operation try not to make sudden movements. When sitting up or getting out of bed, move slowly and smoothly.

When you start drinking take small sips and build up to proper drinking gradually. Eat small light meals to start with.

If you do feel sick, take slow deep breaths to reduce the sensation. Most importantly, tell a nurse as soon as you feel the slightest bit sick.

SIX TOP TIPS FOR COPING WITH SICKNESS

- Warn us if you've felt sick after other operations
- Tell a nurse straight away if you feel sick
- Move slowly and smoothly
- Drink small sips to begin with
- Eat little, light and often
- Try taking deep breaths if sickness strikes

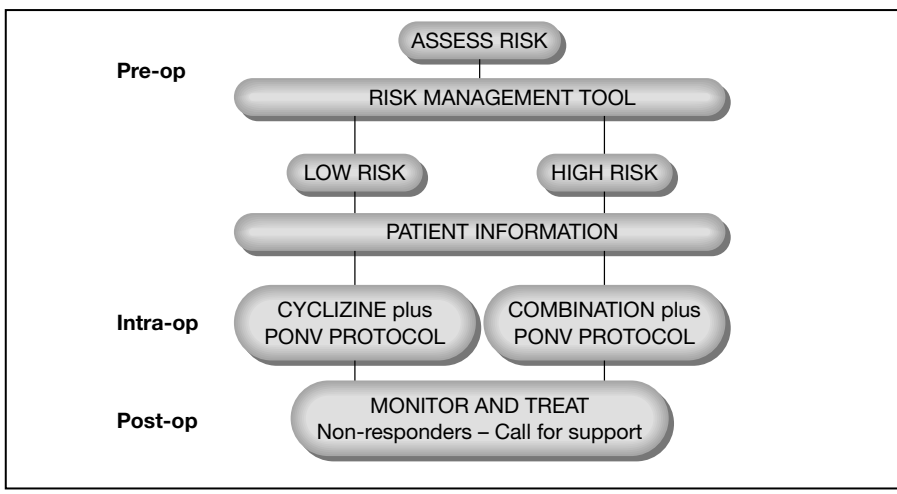
REMEMBER

The staff at QMC understand how unpleasant it is to feel sick. We will do everything to prevent it. If you are unfortunate enough to suffer any sickness we will treat you promptly and give you privacy and support.

Developed for QMC patients with the help of QMC patients

Source: Queen's Medical Centre, Nottingham

Figure 8.2 Patient PONV information leaflet



Source: Queen's Medical Centre, Nottingham

Figure 8.3 PONV management tool