Summary of Product Characteristics

1 NAME OF THE MEDICINAL PRODUCT

Buscopan Ampoules 20 mg/ml Solution for Injection

2 QUALITATIVE AND QUANTITATIVE COMPOSITION

Each 1 ml ampoule contains 20 mg Hyoscine Butylbromide.

For a full list of excipients, see section 6.1.

3 PHARMACEUTICAL FORM

Solution for Injection
A colourless or almost colourless, clear solution.

4 CLINICAL PARTICULARS

4.1 Therapeutic indications

Buscopan ampoules are indicated in acute spasm, as in renal or biliary colic; in radiology for differential diagnosis of obstruction and to reduce spasm and pain in pyelography and in other diagnostic procedures where spasm may be a problem, e.g. gastro-duodenal endoscopy.

4.2 Posology and method of administration

Adults:
One ampoule (20 mg) intramuscularly or intravenously, repeated after half-an-hour if necessary. Intravenous injection should be performed slowly, (in rare cases a marked drop in blood pressure and even shock may be produced by Buscopan). When used in endoscopy this dose may need to be repeated more frequently.

Maximum daily dose of 100 mg.

Special populations:
Elderly: No specific information on the use of this product in the elderly is available. Clinical trials have included patients over 65 years and no adverse reactions specific to this age group have been reported.

Paediatric population:
Not recommended for children.

Buscopan Ampoules should not be taken on a continuous daily basis or for extended periods without investigating the cause of abdominal pain.

Diluent:
Buscopan injection solution may be diluted with dextrose or sodium chloride 0.9% injection solutions.

4.3 Contraindications

Buscopan Ampoules are contraindicated in patients with:

- hypersensitivity to the active substance or to any of the excipients listed in section 6.1
- narrow angle glaucoma
- hypertrophy of the prostate with urinary retention
- mechanical stenosis in the gastrointestinal tract
- paralytical or obstructive ileus
- megacolon
- tachycardia

- myasthenia gravis

Buscopan Ampoules should not be given by intramuscular injection to patients being treated with anticoagulant drugs since intramuscular haematoma may occur.

4.4 Special warnings and precautions for use

In case severe, unexplained abdominal pain persists or worsens, or occurs together with symptoms like fever, nausea, vomiting, changes in bowel movements, abdominal tenderness, decreased blood pressure, fainting, or blood in stool, appropriate diagnostic measures are needed to investigate the etiology of the symptoms.

Buscopan Ampoules can cause tachycardia, hypotension and anaphylaxis, therefore, use with caution in patients with cardiac conditions, such as cardiac failure, coronary heart disease, cardiac arrhythmia or hypertension, and in cardiac surgery. Monitoring of these patients is advised. Emergency equipment and personnel trained in its use must be readily available.

Because of the possibility that anticholinergics may reduce sweating, Buscopan should be administered with caution to patients with pyrexia.

Elevation of intraocular pressure may be produced by the administration of anticholinergic agents such as Buscopan in patients with undiagnosed and therefore untreated narrow angle glaucoma. Therefore, patients should seek urgent ophthalmological advice in case they should develop a painful, red eye with loss of vision after the injection of Buscopan.

After parenteral administration of Buscopan, cases of anaphylaxis including episodes of shock have been observed. As with all drugs causing such reactions, patients receiving Buscopan by injection should be kept under observation.

4.5 Interaction with other medicinal products and other forms of interaction

The anticholinergic effect of drugs such as tri- and tetracyclic antidepressants, antihistamines, quinidine, amantadine, antipsychotics (e.g. phenothiazines, butyrophenones), disopyramide and other anticholinergics (e.g. tiotropium, ipratropium, atropine-like compounds) may be intensified by Buscopan.

The tachycardic effects of beta-adrenergic agents may be enhanced by Buscopan.

Concomitant treatment with dopamine antagonists such as metoclopramide may result in diminution of the effects of both drugs on the gastrointestinal tract.

4.6 Fertility, pregnancy and lactation

Pregnancy
There are limited data from the use of hyoscine butylbromide in pregnant women. Animal studies are insufficient with respect to reproductive toxicity (see section 5.3). As a precautionary measure Buscopan is not recommended during pregnancy.

Lactation
There is insufficient information on the excretion of hyoscine butylbromide and its metabolites in human milk. A risk to the breastfeeding child cannot be excluded. Use of Buscopan during breastfeeding is not recommended.

Fertility
No studies on the effects on human fertility have been conducted.

4.7 Effects on ability to drive and use machines

No studies on the effects on the ability to drive and use machines have been performed. However, patients should be advised that they may experience undesirable effects such as accommodation disorder or dizziness during treatment with Buscopan Ampoules. Therefore, caution should be recommended when driving a car or operating machinery. If patients experience accommodation disorder or dizziness, they should avoid potentially hazardous tasks such as driving or operating machinery.

4.8 Undesirable effects

Many of the listed undesirable effects can be assigned to the anticholinergic properties of BUSCOPAN.

Adverse events have been ranked under headings of frequency using the following convention:
Very common (≥ 1/10)
Common (≥ 1/100 to < 1/10)
Uncommon (≥ 1/1,000 to <1/100)
Rare (≥ 1/10,000 to <1/1,000)
Very rare (<1/10,000)
Not known (cannot be estimated from the available data)

Immune system disorders
Not known*: anaphylactic shock including cases with fatal outcome, anaphylactic reactions, dyspnoea and other hypersensitivity.

Eye disorders
Common: accommodation disorders
Not known*: mydriasis, increased intraocular pressure

Cardiac disorders
Common: tachycardia

Vascular disorders
Common: dizziness
Not known*: blood pressure decreased, flushing

Gastrointestinal disorders
Common: dry mouth
Constipation

Skin and subcutaneous tissue disorders
Not known*: skin reactions (e.g. urticaria, rash, erythema, pruritus), abnormal sweating

Renal and urinary disorders
Not known*: urinary retention

Injection site pain, particularly after intramuscular use, occurs.

Hyoscine butylbromide, the active ingredient of Buscopan, due to its chemical structure as a quaternary ammonium derivate, is not expected to enter the central nervous system. Hyoscine butylbromide does not readily pass the blood-brain barrier. However, it cannot totally be ruled out that under certain circumstances psychiatric disorders (e.g. confusion) may also occur after administration of Buscopan.

*This adverse reaction has been observed in post-marketing experience. With 95% certainty, the frequency category is not greater than common, but might be lower. A precise frequency estimation is not possible as the adverse drug reaction did not occur in a clinical trial database of 185 patients.

Reporting of suspected adverse reactions
Reporting suspected adverse reactions after authorisation of the medicinal product is important. It allows continued monitoring of the benefit/risk balance of the medicinal product. Healthcare professionals are asked to report any suspected adverse reactions via HPRA Pharmacovigilance, Earlsfort Terrace, IRL – Dublin 2; Tel: +353 1 6764971; Fax: +353 1 6762517. Website: www.hpra.ie; e-mail: medsafety@hpra.ie.

4.9 Overdose

Symptoms

Serious signs of poisoning following acute overdosage have not been observed in man. In the case of overdosage, anticholinergic symptoms such as urinary retention, dry mouth, reddening of the skin, tachycardia, inhibition of gastrointestinal motility, and transient visual disturbances may occur, and Cheynes-Stokes respiration has been reported.

Therapy
Symptoms of Buscopan overdosage respond to parasympathomimetics. For patients with glaucoma, pilocarpine should be given locally. Cardiovascular complications should be treated according to usual therapeutic principles. In case of respiratory paralysis: intubation, artificial respiration should be considered. Catheterisation may be required for urinary retention.

In addition, appropriate supportive measures should be used.

5 PHARMACOLOGICAL PROPERTIES

5.1 Pharmacodynamic properties

Buscopan is an antispasmodic agent which relaxes smooth muscle of the organs of the abdominal and pelvic cavities. It is believed to act predominantly on the intramural parasympathetic ganglia of these organs.

5.2 Pharmacokinetic properties

Absorption and distribution
After intravenous administration hyoscine butylbromide is rapidly distributed ($t_{½\alpha}$ = 4 min, $t_{½\beta}$ = 29 min) into the tissues. The volume of distribution (Vss) is 128 L (corresponding to approx. 1.7 L/kg). Because of its high affinity for muscarinic receptors and nicotinic receptors, hyoscine butylbromide is mainly distributed on muscle cells of the abdominal and pelvic area as well as in the intramural ganglia of the abdominal organs. Plasma protein binding (albumin) of hyoscine butylbromide is approximately 4.4%. Animal studies demonstrate that hyoscine butylbromide does not pass the blood-brain barrier, but no clinical data to this effect is available. Hyoscine butylbromide (1 mM) has been observed to interact with the choline transport (1.4 nM) in epithelial cells of human placenta *in vitro*.

Metabolism and elimination
The main metabolic pathway is the hydrolytic cleavage of the ester bond. The half-life of the terminal elimination phase ($t_{½\gamma}$) is approximately 5 hours. The total clearance is 1.2 L/min. Clinical studies with radiolabeled hyoscine butylbromide show that after intravenous injection 42 to 61% of the radioactive dose is excreted renally and 28.3 to 37% faecally.

The portion of unchanged active ingredient excreted in the urine is approximately 50%. The metabolites excreted via the renal route bind poorly to the muscarinic receptors and are therefore not considered to contribute to the effect of the hyoscine butylbromide.

Paediatric population
No particular pharmacokinetic studies concerning hyoscine butylbromide have been performed in children.

5.3 Preclinical safety data

In limited reproductive toxicity studies hyoscine butylbromide showed no evidence of teratogenicity in rats at 200 mg/kg in the diet or in rabbits at 200 mg/kg by oral gavage or 50 mg/kg by subcutaneous injection. Fertility in the rat was not impaired at doses of up to 200 mg/kg in the diet.

6 PHARMACEUTICAL PARTICULARS

6.1 List of excipients

Sodium chloride
Water for injections

6.2 Incompatibilities

None known.

6.3 Shelf life

Unopened: 36months.
Once opened, use immediately and discard any unused contents.

6.4 Special precautions for storage

Store below 30°C. Keep the ampoules in the outer carton.

6.5 Nature and contents of container

1 ml clear glass (Ph. Eur. Type I) ampoules with coloured identification rings, marketed in cartons containing 10 ampoules.

6.6 Special precautions for disposal of a used medicinal product or waste materials derived from such medicinal product and other handling of the product

For single use only. Any unused solution should be discarded.

7 MARKETING AUTHORISATION HOLDER

Opella Healthcare, France SAS, 157 avenue Charles de Gaulle, 92200 Neuilly-sur-Seine, France

8 MARKETING AUTHORISATION NUMBER

PA23180/016/001

9 DATE OF FIRST AUTHORISATION/RENEWAL OF THE AUTHORISATION

Date of first authorisation: 1st April 1979
Date of last renewal: 1st April 2009

10 DATE OF REVISION OF THE TEXT

Novemeber 2023