Information Sheet
for an unlicensed medicinal product

1. Name of the Medicinal Product

Edrophonium Injection BP 10mg/1ml.

2. Qualitative and Quantitative Composition

Each ampoule contains 10mg Edrophonium Chloride BP in 1ml of solution.

3. Pharmaceutical Form

Ampoules

4. Clinical Particulars

4.1. Therapeutic Indications

Myasthenia gravis, as a diagnostic test; to distinguish between overdosage and underdosage of cholinergic drugs in myasthenic patients; diagnosis of suspected ‘dual block’; antagonist to non-depolarising neuromuscular blockade.

4.2. Posology and Method of Administration

Edrophonium Injection BP is for intramuscular or intravenous injection. In view of the possibility of provoking a cholinergic crisis it is recommended that facilities for resuscitation should be available whenever Edrophonium Injection BP is administered.

Adults - Test for myasthenia gravis:
A syringe is filled with the contents of 1 ampoule (10mg) and 2mg is given intravenously, the needle and syringe being left in situ. If no response occurs within 30 seconds, the remaining 8mg is injected. In adults with unsuitable veins, 10mg is given by intramuscular injection.

To differentiate between 'myasthenic' and 'cholinergic' crises:
In a myasthenic patient who is suffering from marked muscle weakness, in spite of taking large doses of Mestinon or Prostigmin, a test dose of 2mg Edrophonium Injection BP is given intravenously one hour after the last dose of the cholinergic compound. If therapy has been inadequate, there is a rapid, transient increase in muscle strength; if the patient has been overtreated, Edrophonium Injection BP causes a transient increase of muscle weakness.

Diagnosis of suspected 'dual block':
Edrophonium Injection BP 10mg intravenously. If the block is due to depolarisation, it is briefly potentiated, whereas in a 'dual block', it is reversed.

Children: Diagnostic tests:

A total dose of 100micrograms/kg body-weight may be given intravenously. One fifth of this dose should be injected initially; if no reaction occurs, the remainder of the dose is administered 30 seconds later.

Antagonist to non-depolarising neuromuscular blockade:
Generally, reversal of neuromuscular block with Edrophonium Injection BP should not be attempted until there is evidence of spontaneous recovery from paralysis. It is recommended that the patient be well ventilated and a patent airway maintained until complete recovery of normal respiration is assured.

Adults and children:
Edrophonium Injection BP 500 - 700micrograms/kg body-weight and atropine 7micrograms/kg body-weight, by slow intravenous injection over several minutes, is usually adequate for reversal of non-depolarising muscle relaxants within 5 - 15 minutes. The two drugs are usually given simultaneously, but in patients who show bradycardia the pulse rate should be increased to about 80/minute with atropine before administering Edrophonium Injection BP.

The speed of recovery from neuromuscular blockade is primarily determined by the intensity of the block at the time of antagonism but it is also subject to other factors, including the presence of drugs (eg. anaesthetic agents, antibiotics, antiarrhythmic drugs) and physiological changes (electrolyte and acid-base imbalance, renal impairment). These factors may prevent successful reversal with Edrophonium Injection BP or lead to recurarisation after apparently successful reversal. Therefore it is imperative that patients should not be left unattended until these possibilities have been excluded.

Elderly:
There are no specific dosage recommendations for Edrophonium Injection BP in elderly patients.

4.3. Contraindications

Edrophonium Injection BP should not be given to patients with mechanical intestinal or urinary obstruction.
Edrophonium Injection BP is contra-indicated in patients with known hypersensitivity to the drug.

4.4. Special Warnings and Precautions for Use

Extreme caution is required when administering Edrophonium Injection BP to patients with bronchial asthma.
Care should also be taken in patients with bradycardia, recent coronary occlusion, vagotonia, hypotension, peptic ulcer, epilepsy or Parkinsonism.
In diagnostic uses of Edrophonium Injection BP, a syringe containing 1mg of atropine should be kept at hand to counteract severe cholinergic reactions, should they occur. In view of the possibility of provoking a cholinergic crisis it is recommended that facilities for resuscitation should always be available.
When Edrophonium Injection BP is used as an antagonist to neuromuscular blockade bradycardia may occur, to a possibly dangerous level, unless atropine is given simultaneously. In this indication, Edrophonium Injection BP should not be given during

cyclopropane or halothane anaesthesia; however, it may be used after withdrawal of these agents.
There is no evidence to suggest that Edrophonium Injection BP has any special effects in the elderly. However, elderly patients may be more susceptible to dysrhythmias than younger adults.

4.5. Interactions with other Medicaments and other forms of interaction

With doses above 10mg, especially the higher dosage employed to antagonise neuromuscular blockade, Edrophonium Injection BP should not be used in conjunction with depolarising muscle relaxants such as suxamethonium as neuromuscular blockade may be potentiated and prolonged apnoea may result.

4.6. Pregnancy and Lactation

The safety of Edrophonium Injection BP during pregnancy or lactation has not been established. Although the possible hazards to mother and child must be weighed against the potential benefits in every case, experience with Edrophonium Injection BP in pregnant patients with myasthenia gravis has revealed no untoward effect of the drug on the course of pregnancy.
There is no information on the excretion of Edrophonium Injection BP into breast milk. Although only negligible amounts would be expected to be present, due regard should be paid to possible effects on the breast-feeding infant.

4.7. Effects on Ability to Drive and Use Machines

None.

4.8. Undesirable Effects

These may include nausea and vomiting, increased salivation, diarrhoea and abdominal cramps.

4.9. Overdose

Edrophonium Injection BP overdosage may give rise to bradycardia, arrhythmias, hypotension and bronchiolar spasm. Perspiration, gastro-intestinal hypermotility and visual disturbances may also occur.
Artificial ventilation should be instituted if respiration is severely depressed. Atropine sulphate 1 - 2mg intravenously is an antidote to the muscarinic effects.

5. Pharmacological Properties

5.1. Pharmacodynamic Properties

Edrophonium Injection BP is an antagonist to cholinesterase, the enzyme which normally destroys acetylcholine. The action of Edrophonium Injection BP can briefly be described, therefore, as the potentiation of naturally occurring acetylcholine. It differs from Prostigmin (neostigmine) and Mestinon (pyridostigmine) in the rapidity and brevity of its action.

5.2. Pharmacokinetic Properties

Following intravenous injection of Edrophonium Injection BP an initial rapid phase of elimination (0.5 - 2 minutes) precedes a much slower decline (24 - 45 minutes). It is suggested that the rapid fall in plasma concentration of edrophonium is not primarily due to metabolism and excretion but to the rapid uptake of the drug by other tissues.

5.3. Preclinical Safety Data

There are no pre-clinical data of relevance to the prescriber which are additional to that already included in other sections of the Information Sheet.

6. Pharmaceutical Particulars

6.1. List of Excipients

Sodium Sulphite anhydrous
Sodium Citrate
Citric Acid Anhydrous
Water for Injections

6.2. Incompatibilities

None known.

6.3. Shelf Life

One year.

6.4. Special Precautions for Storage

Protect from light.

6.5. Nature and Contents of Container

Colourless glass ampoules, each containing 1ml of solution, in packs of 10 ampoules. The ampoule solution is almost colourless.

6.6. Special precautions for disposal

None.

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Administrative Data

7. Distributed by

Alliance Pharmaceuticals Ltd
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8. Manufactured by

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The Newcastle Upon Tyne Hospitals NHS Trust
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9. Date of Preparation of Information Sheet

24 November 2011

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Adverse events thought to have been caused by taking an Alliance medicine should be reported to Pharmacovigilance at Alliance.
Email: pharmacovigilance@alliancepharma.co.uk
Alternatively, information on adverse event reporting can be found at www.yellowcard.gov.uk.

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