Suxalax™ Injection

Suxamethonium Chloride BP

COMPOSITION

Suxalax™ IM/IV Injection: Each 2 ml injection contains Suxamethonium Chloride BP 100 mg.

PHARMACOLOGY

Suxamethonium (**Suxalax**™) is a muscle relaxant. It acts as a depolarizing neuromuscular blocker by imitating the action of acetylcholine at the neuromuscular junction. Suxamethonium acts on muscle type nicotinic receptors. Binding of Suxamethonium to the nicotinic acetylcholine receptor results in opening of the receptor's nicotinic sodium channel; sodium moves into the cell, a disorganized depolarization of the motor-end plate occurs and calcium is released from the sarcoplasmic reticulum. This results in fasciculation. In the normal muscle, following depolarization, acetylcholine is rapidly hydrolyzed by acetylcholinesterase and the muscle cell is able to 'reset' ready for the next signal. But Suxamethonium is degraded not by acetylcholinesterase, rather by butyrylcholinesterase, a plasma cholinesterase. This hydrolysis by butyrylcholinesterase is much slower than that of acetylcholine by acetylcholinesterase. Thus Suxamethonium has a longer duration of effect than acetylcholine and it does not allow the muscle cell to 'reset' and keeps the 'new' resting membrane potential below threshold. When acetylcholine binds to an already depolarized receptor it cannot cause further depolarization. Calcium is removed from the muscle cell cytosol independent of repolarization. As the calcium is taken up by the sarcoplasmic reticulum, the muscle relaxes. This explains muscle flaccidity rather than tetany following fasciculation.

INDICATION

Suxalax™ is a short-acting depolarizing neuromuscular blocking agent. It is used in anesthesia as a muscle relaxant to-

- facilitate endotracheal intubation
- aid in mechanical ventilation and
- assist a wide range of surgical and obstetric procedures

DOSAGE & ADMINISTRATION

Suxalax™ is usually administered by bolus Intravenous or Intramuscular injection.

Adults: The dose of **Suxalax**™ is dependent on body weight, the degree of muscular relaxation required, the route of administration and the response of individual patients. To achieve endotracheal intubation **Suxalax**™ is usually administered intravenously in a dose of 1 mg/kg. This dose will usually produce muscular relaxation in about 30-60 seconds and has a duration of action of about 2-6 minutes. Supplementary doses of **Suxalax**™ of 50%-100% of the initial dose administered at 5-10 minutes intervals will maintain muscle relaxation during short surgical procedures performed under general anesthesia. For prolonged surgical procedures **Suxalax**™ may be given by intravenous infusion as a 0.1%-0.2% solution, diluted in 5 % glucose solution or sterile isotonic saline solution, at a rate of 2.5 to 4 mg per minute. The infusion rate should be adjusted according to the response of individual patients. The total dose of **Suxalax**™ given by repeated intravenous injection or continuous infusion should not be exceeded 500 mg per hour.

Children: Infants and young children are more resistant to **Suxalax**™ compared with adults. The recommended intravenous dose of **Suxalax**™ for infants is 2 mg/kg. A dose of 1 mg/kg in older children is recommended. When **Suxalax**™ is given as intravenous infusion in children, the dosage is as for adults with a proportionately lower initial Infusion rate based on body weight. **Suxalax**™ may be given intramuscularly to infants at doses up to 4-5 mg/kg and in older children up to 4 mg/kg. These doses produce muscular relaxation within about 3 minutes. A total dose of 150 mg should not be exceeded.

SIDE EFFECT

Cardiovascular: bradycardia, tachycardia, hypertension, hypotension, arrhythmias. Respiratory: bronchospasm, prolonged respiratory depression and apnea. Musculoskeletal: muscle fasciculation, post-operative muscle pains, myoglobinemia. Others: hyperthermia, increased intra-ocular pressure increased intra-gastric pressure, rash, excessive salivation.

PRECAUTION

Suxamethonium should be administered only by or under close supervision of an anesthetist familiar with its action, characteristics and hazards, who is skilled in the management of artificial respiration and only where there are adequate facilities for immediate endotracheal intubation with administration of oxygen by intermittent positive pressure ventilation. The elderly may be more susceptible to cardiac arrhythmias, especially if digitalis-like drugs are also being taken.

CONTRAINDICATION

Suxamethonium has no effect on the level of consciousness and should not be administered to a patient who is not fully anesthetized. Suxamethonium should not be administered to patients known to be hypersensitive to the drug. Suxamethonium is contraindicated in patients known to have an inherited atypical plasma cholinesterase activity. An acute transient rise in serum potassium often occurs following the administration of Suxamethonium in normal individuals (usually 0.5 mmol/Litre). But in certain pathological states it may cause excessive increase in serum potassium leading to serious cardiac arrhythmias and cardiac arrest. For this reason, use of Suxamethonium is contraindicated in patients recovering from major trauma, patients recovering from severe burns, patients with neurological deficits involving acute major muscle wasting and patients with pre-existing hyperkalemia. Suxamethonium causes a slight transient rise in intra-ocular pressure, and should therefore not be used in the presence of open eye injuries. The injection is contraindicated in new-born infants, especially in immature neonates.

DRUG INTERACTION

Certain drugs or chemicals are known to reduce normal plasma cholinesterase activity and may therefore prolong the neuromuscular blocking effects of **Suxalax**™. These include: trimetaphan; specific anticholinesterase agents: neostigmine, pyridostigmine, physostigmine; cytotoxic compounds: cyclophosphamide, mechlorethamine, triethylene-melamine; psychiatric drugs: promazine and chlorpromazine, anesthetic agents and drugs: ketamine, morphine and morphine antagonists, pethidine, pancuronium.

USE IN PREGNANCY AND LACTATION

Although **Suxalax**™ does not readily cross the placental barrier it should not be administered to pregnant women unless the potential benefit outweighs possible hazards.

STORAGE CONDITION

Store in a refrigerator between 2°-8° C. Do not freeze.

HOW SUPPLIED

Suxalax™ IM/IV Injection: Each box contains 10 ampoules in blister pack.

Manufactured by

SQUARE
PHARMACEUTICALS LTD.
Kaliakoir, Bangladesh

TM-Trade Mark.

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