SCHEDULING STATUS

SA: S4

NA: NS2

PROPRIETARY NAME AND DOSAGE FORM

SCANDONEST 2 % SPECIAL

Solution for Injection supplied in dental cartridges

COMPOSITION

Per 1,8 ml cartridge

Mepivacaine hydrochloride	36 mg
Epinephrine (adrenaline)	18 mcg
Antioxidant:	
Potassium metabisulphite	2,16 mg

SCANDONEST 2 % SPECIAL also contains the following inactive ingredients:

Sodium chloride, sodium edetate and water for injection.

CLASSIFICATION

A.4 local anaesthetics.

PHARMACOLOGICAL ACTION

SCADONEST 2% SPECIAL is a local anesthetic in sterile injectable form containing Mepivacaine and Epinephrine (adrenaline). Mepivacane is 1-methyl-2', 6'-pipecoloxylidide, monohydrochloride. Mepivacaine stabilizes the neuronal membrane and prevents the initiation and transmission of nerve impulses, thereby effecting local anaesthesia. Mepivacaine is characterized by a slight intrinsic vasoconstrictive action.

The addition of a small amount of vasoconstrictor Epinephrine (adrenaline) 1:100,000) enables a more prolonged anaesthesia. By decreasing the rate of absorption of the agent into the blood stream, epinephrine (adrenaline) also decreases peak concentrations of local anaesthetics in the blood.

The systemic absorption of Mepivacaine is complete following parenteral administration, its rate of absorption depending upon various factors, such as the site of injection and the presence or absence of a vasoconstrictor agent. Mepivacaine, because of its amide structure, is not detoxified by the circulating plasma esterases. Mepivacaine is rapidly metabolized. The liver is the principal site of metabolism, with over 50 per cent of the administered dose being excreted into the bile as metabolites. Most of the metabolized Mepivacaine is probably resorbed in the intestine and then excreted into the urine, since only a small percentage is found in the faeces.
The principal route of excretion is via the kidneys. Most of the anaesthetic and its metabolites are eliminated within 30 hours. A percentage of up to 16 per cent of the dose administered is excreted unchanged in the urine.

It has been shown that hydroxylation and N-demethylation, which are detoxification reactions, play important roles in the metabolism of the anaesthetic. Three metabolites of Mepivacaine have been identified from adult humans: two phenols which are excreted almost exclusively as their glucuronide conjugates, and the N-demethylated compound (2, 6'-pipecoloxylidide).

Onset and duration of anaesthesia.

The onset of action is rapid, 30 - 120 seconds in the upper jaw; 1 to 4 minutes in the lower jaw. SCANDONEST 2% SPECIAL will ordinarily provide an operating anaesthesia of 1 to 2 hours in the upper jaw and 2 to 4 hours in the lower jaw. It has a localized, deep and long lasting action, and therefore provides anaesthesia of long duration for prolonged procedures.

INDICATIONS

SCANDONEST 2% SPECIAL is indicated for the production of local anaesthesia
for dental procedures by infiltration or nerve block injections.

CONTRAINDICATIONS

SCANDONEST 2% SPECIAL is not to be used for patients presenting specific allergies to amide-type anaesthetics, or to any components of their respective formulations.

SCANDONEST 2% SPECIAL, due to the presence of a vasoconstrictor [Epinephrine (adrenaline)] in the formula, is also contraindicated for patients:

-suffering from arterial hypertension,

-suffering from cardiovascular disease, if they are under MAOI treatment,

-under tricyclic antidepressants treatment

-presenting any coronary disease,

-suffering from any vulvular affection, which constitutes a special risk.

WARNINGS and SPECIAL PRECAUTIONS

- Practitioners who employ local anaesthetic agents should be well versed in diagnosis and management of emergencies which may arise from their use. Resuscitative equipment oxygen and other resuscitative drugs should be available for immediate use.
- Do not inject into blood vessel - inject slowly:

  To minimize the likelihood of intravascular injection, aspiration should be performed before the local anesthetic solution is injected. If blood is aspirated, the needle must be repositioned until no return of blood can be elicited by aspiration. Note, however, that the absence of blood in the syringe does not assure that intravascular injection will be avoided and a double aspiration is always recommended.

  SCANDONEST 2% SPECIAL containing a vasoconstrictor should not be injected repeatedly at the same site because reduced blood flow and increased oxygen consumption in the affected tissues may cause tissues may cause tissue anoxia, oedema or necrosis at the injection site, and delay healing.

Use of cartridge:

Use on one patient during one session of treatment only. If only part is used, the reminder must be discarded.

General

The safety and effectiveness of Mepivacaine depend on proper dosage, correct technique, adequate precautions and readiness for emergencies. Resuscitative equipment, oxygen and other resuscitative drugs medicines should be available for immediate use.

The lowest dosage that results in effective anaesthesia should be used to avoid high plasma levels and serious adverse effects. Repeated doses of Mepivaciane may cause significant increase in blood levels with each repeated dose due to slow accumulation of the drug or its metabolites.

Tolerance to elevated blood levels varies with the status of the patient. Debilitated, elderly patients acutely ill patients, and children should be given reduced doses, commensurate with their age and physical condition*. (see Dosage and directions for use)*

The use of SCANDONEST 2% SPECIAL, as for other vasoconstrictor containing local anaesthetic preparations should be carefully considered when the following medical conditions exist:

- Cardiac disease or arrhythmias or hyperthyroidism (since cardiac stimulant effects are detrimental to these patients).
- Peripheral vascular disease (since exaggerated vasoconstrictor response may occur leading to increased risk of ischemic injury or necrosis).

  Cardiovascular and respiratory (adequacy of ventilation vital signs and the patient's state of consciousness should be monitored after each local anaesthetic injection. Restlessness, anxiety, tinnitus, dizziness blurred vision, tremors depression or drowsiness should alert the practitioner to the possibility of central nervous system toxicity.

  Signs and symptoms of depressed cardiovascular function may commonly results form a

vasovagal reaction, particularly if the patient is in an upright position: placing the patient in the recumbent position is recommended when an adverse response is noted after injection of a local anaesthetic *(see Side-effects, Cardiovascular System)*

Mepivacaine should be used with caution in:

- Patients with hepatic disease, since amide-type anaesthetics are metabolized by the liver. Patients with severe hepatic disease, because of their inability to metabolize local anaesthetic normally, are at greater risk of developing toxic plasma concentrations,
- Patients with renal disease, since local anaesthetics are excreted by the kidneys, and patient due to his conditions is also at a greater risk of developing toxic plasma concentrations.

The use of Mepivacaine should be carefully considered if:

- There is inflammation and/or sepsis in the region of injection, since this may alter the pH at the site of injection, resulting in decrease or loss of anaesthetic effect,

There is a history of severe disturbance of cardiac rhythm or heart block, since the cardiac depressant effects of the anaesthetic are detrimental to the patient.

INTERACTIONS

If sedatives are employed to reduce patient apprehension, reduced doses of the anaesthetic solution should be used since local anaesthetic agents, like sedatives, are central nervous system depressants which in combination may have an additive affect.

As in the case of all other local anaesthetic solutions containing a vasoconstrictor, with SCANDONEST 2% SPECIAL, other various interactions may occur, that is to say, interactions:

- With beta-adrenergic blocking agents since concurrent use with a vasoconstrictor may results in dose-dependent hypertension and bradycardia,
- With Monoamine Oxidase inhibitors (MOI), since these substances inhibit the degradation of

Epinephrine (adrenaline) in the blood, and therefore, concurrent use with vasoconstrictors may cause severe, sustained hypertension, due to abnormal blood concentrations of this hormone (*see contra-indications),*

- With phenothiazines, or tricyclic anti-depressants, since concurrent use with a vasoconstrictor [epinephrine (adrenaline)] may cause severe, sustained hypotension or hypertension. Concurrent use of these agents should generally be avoided. In situations when concurrent therapy is necessary, careful patient monitoring is essential (*see contra-indications),*
- With vasopressor medicines and ergot-type oxytocic medicines, since concurrent use with a vasoconstrictor may cause severe, persistent hypertension or cerebrovascular accidents,
- With chloroform, halothane, cyclopropane trichloethylene, or other related agents, since serious cardiac arrhythmias may occur if preparations containing a vasoconstrictor are employed in patients during or following the administration of those drugs.

PREGNANCY AND LACTATION

In pregnancy: on the basic, of long usage, anaesthetics of the Mepivacaine type are considered to be reasonably safe for use on pregnant women. However, the safe use of Mepivacaine has not been established with respect to possible effects upon foetal development, and careful consideration should be given to this fact before administering the anaesthetic solution during early pregnancy.

Nursing mothers: it is not known whether this drug is excreted in human milk. Caution should be exercised when Mepivacaine is administered to a nursing woman.

DOSAGE AND DIRECTIONS FOR USE

Adults: 1.8ml (1 cartridge) for routine work.

Do not exceed three cartridges.

Children: 6- 14 years of age: usual dose of 1.6 ml (8/9 cartridge)

Do not exceed 3.3 ml (1 4/5 cartridges).

3-6 years of age: 1,1 ml to 1.2 ml (3/5 to 2/3 cartridges).

Do not use under 3 years of age.

SIDE EFFECTS

Adverse experiences following the administration of Mepivacaine are similar in nature to those observed with other amide local anaesthetic agents. These adverse experiences are, in general, dose-related and may result from high plasma levels caused by excessive dosage, rapid absorption or unintended intravascular injection, or may result from a hypersensitivity idiosyncrasy or diminished tolerance on the part of the patient. Serious adverse Experiences are generally systemic in nature.

The following types are those most commonly reported:

-Central Nervous System

CNS manifestations are excitatory and/or depressant and may be characterized by light headedness, nervousness, apprehension, euphoria, confusion, dizziness, drowsiness, tinnitus, blurred or double vision, vomiting, sensations of heat, cold or numbness, twitching, tremors, convulsions, unconsciousness, respiratory depression and arrest. The excitatory manifestations may be very brief or not occur at all, in which case the first manifestation of toxicity may be drowsiness merging into unconsciousness and respiratory arrest. Drowsiness following the administration of Mepivacaine is

usually an early sign of a high blood level of the drug and may occur as a consequence of rapid absorption.

-Cardiovascular System

Cardiovascular manifestations are usually depressant and are characterized by bradycardia, hypotension, and cardiovascular collapse, which may lead to cardiac arrest. Signs and symptoms of depressed cardiovascular function may commonly result from a vasovagal reaction, particularly if the patient is in an upright position. Less commonly, they may result from a direct affect of the drug, failure to recognize the premonity signs such as sweating, a feeling of faintness, changes in pulse or sensorium may result in progressive cerebral hypoxia and seizure or serious cardiovascular catastrophe.

Management consists of placing the patient in the recumbent position and ventilation with oxygen. Supportive treatment of circulatory depression may require the administration of intravenous fluids, and when appropriate, a vasopressor (e.g. ephedrine), as directed by the clinical situation.

-Allergic Reactions

Allergic reactions are characterized by cutaneous lesions, urticaria, oedema or anaphylactoid reactions. Allergic reactions as a result of sensitivity to Mepivacaine are extremely rare, and if they occur, should be managed by conventional means. The detection of sensitivity by skin testing is of doubtful value.

Side-effects of epinephrine (adrenaline) include anxiety, dyspnoea, hyperglycaemia, restlessness, palpitations, tachycardia, tremors, rise in blood pressure, weakness, dizziness, headache and coldness of extremities may occur. Cardiac arrhythmias, cerebral haemorrhage and pulmonary

oedema may occur.

Vertricular fibrillations may occur if epinephrine (adrenaline) is given with excessive doses of cardiac glycosides, mercurial diuretics or other drugs that sensitise the heart to arrhythmias or if epinephrine (adrenaline) is used during anaesthesia with chloroform, cyclopropane, ethyl chloride, fluroxene halothane, methoxyfluorone or trichloethylene. Epinephrine (adrenaline) should be used with caution in patients receiving reserpine, guanethidine and beta-and alpna-adrenoreceptor blocking agents.

Gangrene may follow the infiltration of epinephrine (adrenaline) in digits.

KNOWN SYMPTOMS OF OVERDOSAGE AND PARTICULARS OF ITS TREATMENT

Acute emergencies from local anaesthetics are generally related to high plasma levels encountered during therapeutic use of excessive dosage of local anaesthetics or to unintended intravascular injection of local anaesthetic solution. (*see Side effects and Warnings and Special Precautions)*

Management of local anaesthetic emergencies:

-The first consideration is prevention, best accomplished by careful and constant monitoring of cardiovascular and respiratory vital signs and the patient's state of consciousness after each local anaesthetic injection. At the first sign of change, oxygen should be administered.

-The first step in the management consists of immediate attention to the maintenance of a patent airway and assisted or controlled ventilation with oxygen and a delivery system capable of permitting immediate positive airway pressure by mask.

-Immediately after the institution of these ventilator measures, the adequacy of the circulation should be evaluated, keeping in mind that drugs used to treat convulsions sometimes depress the circulation when administered intravenously. Should convulsions persist despite adequate respiratory support

and if the status of the circulation permits, small increments of an ultra-short acting barbiturate (such as thiopental or thiamylar) or a benzodiazepine such such as diazepam may be administered intravenously. The clinician should be familiar prior to use of local anaesthetics, with these anti-convulsant medicines. Supportive treatment of circulation depression may require administration of intravenous fluids, and when appropriate, a vasopressor as directed by the clinical situation (e.g. ephedrine).

-if not treated immediately, both convulsions and cardiovascular depression can result in hypoxia, acidosis, bradychardia, arrhythmias and cardiac arrest. If cardiac arrest should occur, standard cardiopulmonary resuscitative measures should be instituted.

-Endotracheal intubation, employing drugs and techniques familiar to the clinician, may be indicated, after initial administration of oxygen by mask, if difficulty is encountered in the maintenance of a patent airway or if prolonged ventilator support (assisted or controlled) is indicated.

-Dialysis is of negligible value in the treatment of acute overdosage with Mepivacaine.

IDENTIFICATION

SCANDONEST 2% SPECIAL is a clear aqueous solution in 1.8 ml cartridges.

PRESENTATION

Cartons of 50 cartridges each containing, 1.8 ml of solution.

STORAGE INSTRUCTIONS

Store in a cool (at or below 25 °C) dark place. Do not freeze

REGISTRATION NUMBER

SA: Y/4/421

NA: 11/4/0202

NAME AND BUSINESS ADDRESS OF THE HOLDER OF THE CERTIFICATE OF REGISTRATION

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