

PACKAGE INSERT

SCHEDULING STATUS

S4

PROPRIETARY NAME:

REMICARD

(dosage form)

Injection

COMPOSITION:

Anhydrous Lignocaine Hydrochloride 100 mg per ml.

PHARMACOLOGICAL CLASSIFICATION:

A.6.2 Cardiac Depressants

PHARMACOLOGICAL ACTION:

Lignocaine is an antiarrhythmic agent with properties distinctly different from those of other agents.

Unlike some antiarrhythmic agents the depressant action of lignocaine on ectopic foci is not accompanied by a significant slowing of the conduction of normal beats. In addition, the usual therapeutic doses of lignocaine produce no change in myocardial contractility, systemic arterial blood pressure, or peripheral vascular tone. Knowledge of the pharmacokinetic disposition of lignocaine is important to its use: following a single intravenous injection the declining blood level curves may be divided into two distinct phases. The first phase lasts for about 30 minutes and exhibits a half-life of about 10 minutes.

This decline primarily reflects a redistribution of the drug into various body tissues including the heart.

The rapid uptake of lignocaine by cardiac tissue accounts for the immediate onset of the antiarrhythmic effect. The relatively short duration of action which has been observed following the administration of a single intravenous injection is probably explained by the fact that the lignocaine blood levels are known to

fall fairly rapidly under such conditions. The second phase of the lignocaine blood level curve manifests a half-life of approximately 90 to 120 minutes, and is more representative of the clearance of the drug from the body.

Because of these characteristics the time required to reach a steady state in lignocaine blood levels will be six to eight hours, when the drug is administered by continuous infusion. In order to rapidly obtain and maintain adequate blood levels during the initial stages of the infusion therapy the continuous infusion must be preceded, and supplemented in the initial phase, by loading doses.

INDICATIONS:

Treatment or prophylaxis of ventricular arrhythmias and tachycardias associated with myocardial infarction; general anaesthesia (in patients predisposed to ventricular arrhythmias); or following resuscitation from cardiac arrest.

CONTRA-INDICATIONS:

A-V block grade 3 and other serious conduction disorders; cardiac decompensation (left ventricular failure and congestive heart failure) except when due to tachyarrhythmia.

WARNINGS:

To be diluted and used for intravenous infusion only.

DOSAGE AND DIRECTIONS FOR USE:

The usual procedure for adults is to infuse a 0,2 % **REMICARD** solution at a rate of 2 - 4 mg per minute.

Two ampoules of **REMICARD** diluted with 500 ml dextrose 5 % in 0,9 % sodium chloride, yields a 0,2 % **REMICARD** solution. The average drip rate of this solution would be 1 - 2 ml per minute or 15 - 30 drops per minute where 1 ml corresponds to 15 drops.

In order to rapidly obtain antiarrhythmic effect, an intravenous injection of 50 to 100 mg should always be given at the commencement of infusion. Several hours may be required to obtain therapeutic blood levels by constant rate infusion only. Therapeutic levels can be achieved more rapidly by administering a further two intravenous injections of 50 - 100 mg at 15 to 20 minute intervals. In some cases increasing the infusion rate above 4 mg per minute may be warranted to obtain an antiarrhythmic effect. When using higher doses the risk of side effects increases.

In cases of shock, severe congestive cardiac failure, or marked impairment of liver function, the dosage should be substantially reduced. To suppress ventricular tachyarrhythmias following acute myocardial infarction the infusion therapy should usually be given for 48 hours or more and continued until 24 hours have elapsed without occurrence of significant ectopic activity. If during an infusion it is necessary to increase the infusion rate to maintain the antiarrhythmic effect, a slow intravenous injection of 50 to 100 mg of lignocaine should first be given in order to rapidly obtain therapeutic blood levels. After this the infusion rate is adjusted in order to achieve and maintain adequate antiarrhythmic protection.

As a rule a concentration of 0,2 % **REMICARD** is used in the infusion solution. At higher doses and when the supply of fluid - litres per 24 hours - should be restricted, a higher concentration is used. It is often necessary that lignocaine solution concentrations be expressed as a percentage rather than in terms of milligrams per millilitre.

The following table may be found useful: -

5 ml (1 ampoule) diluted with 250 ml yields an 0,2 % solution

10 ml (2 ampoules) diluted with 250 ml yields an 0,4 % solution

15 ml (3 ampoules) diluted with 250 ml yields an 0,6 % solution

20 ml (4 ampoules) diluted with 250 ml yields an 0,8 % solution

REMICARD is compatible with glucose, physiological saline, Ringer solution, invertose and dextran.

SIDE-EFFECTS AND SPECIAL PRECAUTIONS:

Mild and transient side-effects (dizziness, drowsiness) may occur following a rapid intravenous loading dose and during the infusion therapy. More severe side-effects are indicative of overdosage or too rapid a rate of administration. When properly administered, severe reactions of the central nervous system or cardiovascular type are rare.

REMICARD should usually not be used when there is an impending risk of asystole, e.g. complete heart block or signs of severely damaged conduction system. Caution should be employed in the repeated use of **REMICARD** in patients with severe liver or renal disease because accumulation may occur and may lead to toxic phenomena, since lignocaine is metabolised mainly in the liver and the metabolites are excreted via the kidneys. The drug should also be used with caution in patients with hypovolemia and shock.

In case of bradyarrhythmias complicated by ventricular tachyarrhythmias, a combination of **REMICARD** and atropine or atropine-like drugs or a combination of **REMICARD** and cardiac pacing may be considered.

KNOWN SYMPTOMS OF OVERDOSAGE AND PARTICULARS OF ITS TREATMENT:

The following are symptoms of overdosage or too rapid a rate of administration: -

Central nervous system: light headedness, drowsiness, dizziness, apprehension, euphoria, tinnitus, blurred or double vision, vomiting, sensation of heat, cold or numbness, twitching, tremors, convulsions, unconsciousness and respiratory depression.

Cardiovascular system: hypotension and bradycardia which may lead to cardiac arrest.

When severe side-effects occur, the administration of **REMICARD** should be stopped immediately and the appropriate resuscitative procedures should be instituted.

- Hypotension may be counteracted by a vasopressor agent or a myocardial stimulant and proper positioning of the patient.
- Bradycardia may be treated with atropine or atropine-like drugs.
- Asystole requires immediate cardiopulmonary resuscitation including if necessary agents such as adrenaline or isoprenaline, and cardiac pacing if required.
- Convulsions may be treated with small doses of a short-acting barbiturate, and pulmonary ventilation should be ensured (free airway and oxygen). Artificial ventilation if required can be facilitated by the i.v. injection of a short-acting muscle relaxant.

IDENTIFICATION:

Clear, colourless solution in 5 ml "snap neck" ampoules.

PRESENTATION:

Boxes of 5 ampoules each containing 5 ml of a 10 % lignocaine hydrochloride solution.

STORAGE INSTRUCTIONS:

Store below 25 °C. Protect from light. Keep out of reach of children.

REGISTRATION NUMBER:

E/6.2/35

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