Ciron Drugs & Pharmaceuticals Pvt. Ltd. (Tarapur plant)

Item Description	Leaflet	Customer / Country	Rene Pharma-uganda
Product Name	Digoxin Injection	Pack Size	5x2ml Ampoule
Substrate specification	60 GSM MAPLITHO BOARD	Pharmacode / Barcode	
Finishing		Dimension	90x140mm
Minimun font size	5.5 pt	Artist Name	Arti
Colour scheme	■ Black	Language	English
		Date	17-12-18
Subject	For approval	Printer Name	

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be considered digoxin toxicity. Cardiac toxicity can also occur at therapeutic doses in patients who have conditions which may alter their sensitivity to digoxin (see Special Warnings and Precautions for Use).

Overdose:
After recent ingestion, such as accidental or deliberate self-poisoning, the load available for absorption may be reduced by gastric lavage.
Patients with massive digitalis ingestion should receive large doses of activated charcoal to prevent absorption and bind digoxin in the gut during enterocenteric recirculation.
An overdosage of digoxin of 10 to 15 mg in adults without heart disease and of 6 to 10 mg in children aged 1 to 3 years without heart disease appeared to be the dose resulting in death in half of the patients.

If hypokalaemia is present, it should be corrected with potassium supplements either orally or intravenously depending on the urgency of the situation. In cases where a large amount of Digoxin Injection has been ingested, hyperkalaemia may be present due to release of potassium from skeletal muscle. Before administering potassium in digoxin overdose the serum potassium level must be known.

Bradyarrhythmias may respond to atropine but temporary cardiac pacing may be required. Ventricular arrhythmias may respond to lignocaine or phenytoin.

Dialysis is not particularly effective in removing digoxin from the body in potentially life-threatening toxicity.

Instructions for use and handling:
Digoxin Injection Injection can be administered undiluted or diluted with a 4-fold or greater volume of diluent. The use of less than a 4-fold volume of diluent could lead to precipitation of digoxin.
Digoxin Injection Injection, 250 micrograms/ml when diluted in the ratio of 1 to 250 (i.e. One 2 ml ampoule containing 500 micrograms added to 500 ml of infusion solution) is known to be compatible with the following infusion solutions:
Sodium Chloride Intravenous Infusion, BP, 0.9% w/v
Sodium Chloride (0.18% w/v) and Glucose (4% w/v) Intravenous Infusion, BP
Glucose Intravenous Infusion, BP, 5% w/v

Storage : Store below 30°C. Protect from light.
Keep out of reach of children.

Presentation : 5 x 2ml Ampoule

Manufactured in India by :
Ciron Drugs
& Pharmaceuticals Pvt. Ltd.
N-118,119,113,119/1,119/2
& 118/1, M.I.D.C., Tarapur,
Boisar, Dist. Palghar - 401 506.
www.cironpharma.com
(Previously part of District Thane)

Digoxin Injection BP

For I.M./I.V. Use Only

COMPOSITION:
Each ml contains:
Digoxin BP 0.25mg
Ethanol 80% BP 0.125 ml
(As Preservative)

PHARMACOLOGY:
Digoxin exerts the same fundamental effect of inhibition of the Na+-K+ exchange mechanism on cells of the autonomic nervous system, stimulating them to exert indirect cardiac activity. Increases in efferent vagal impulses result in reduced sympathetic tone and diminished impulse conduction rate through the atria and atrioventricular node. Thus, the major beneficial effect of digoxin is reduction of ventricular rate.

INDICATIONS:
Digoxin Injection is indicated in the management of chronic cardiac failure where the dominant problem is systolic dysfunction. Its therapeutic benefit is greatest in those patients with ventricular dilatation. Digoxin Injection is specifically indicated where cardiac failure is accompanied by atrial fibrillation. Digoxin Injection is indicated in the management of certain supraventricular arrhythmias, particularly chronic atrial flutter and fibrillation..

DOSAGE:
The dose of Digoxin Injection for each patient has to be tailored individually according to age, lean body weight and renal function. Suggested doses are intended only as an initial guide.
Emergency Parenteral Loading (In patients who have not been given cardiac glycosides within the preceding two weeks): The loading of parenteral Digoxin Injection is 500 to 1000 micrograms (0.5 to 1.0 mg) depending on age, lean body weight and renal function.
The loading dose should be administered in divided doses with approximately half the total dose given as the first dose and further fractions of the total dose given at intervals of 4 to 8 hours, assessing clinical response before giving each additional dose. Each dose should be given by intravenous infusion (see Dilution) over 10 to 20 minutes.

Neonates, infants and children up to 10 years of age (if cardiac glycosides have not been given in the preceding two weeks):
In the newborn, particularly in the premature infant, renal clearance of digoxin is diminished and suitable dose reductions must be observed, over and above general dosage instructions.
Beyond the immediate newborn period, children generally require proportionally larger doses than adults on the basis of body weight or body surface area, as indicated in the schedule below. Children over 10 years of age require adult dosages in proportion to their body weight.

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These dosage schedules are meant as guidelines and careful clinical observation and monitoring of serum digoxin levels (see Monitoring) should be used as a basis for adjustment of dosage in these paediatric patient groups.

If cardiac glycosides have been given in the two weeks preceding commencement of Digoxin Injection therapy, it should be anticipated that optimum loading doses of Digoxin Injection will be less than those recommended above.

Use in the elderly: The tendency to impaired renal function and low lean body mass in the elderly influences the pharmacokinetics of Digoxin Injection such that high serum digoxin levels and associated toxicity can occur quite readily, unless doses of Digoxin Injection lower than those in non-elderly patients are used. Serum digoxin levels should be checked regularly and hypokalaemia avoided.

Contraindications:
Digoxin Injection is contra-indicated in intermittent complete heart block or second degree atrioventricular block, especially if there is a history of Stokes-Adams attacks.
Digoxin Injection is contra-indicated in arrhythmias caused by cardiac glycoside intoxication.
Digoxin Injection is contra-indicated in supraventricular arrhythmias associated with an accessory atrioventricular pathway, as in the Wolff-Parkinson-White syndrome unless the electrophysiological characteristics of the accessory pathway and any possible deleterious effect of digoxin on these characteristics has been evaluated. If an accessory pathway is known or suspected to be present and there is no history of previous supraventricular arrhythmias, Digoxin Injection is similarly contra-indicated.

Digoxin Injection is contra-indicated in ventricular tachycardia or ventricular fibrillation.

Digoxin Injection is contra-indicated in hypertrophic obstructive cardiomyopathy, unless there is concomitant atrial fibrillation and heart failure, but even then caution should be exercised if digoxin is to be used.

Digoxin Injection is contra-indicated in patients known to be hypersensitive to digoxin or other digitalis glycosides.

Pregnancy and lactation:
No data are available on whether or not digoxin has teratogenic effects.
There is no information available on the effect of digoxin on human fertility.
The use of digoxin in pregnancy is not contra-indicated, although the dosage and control may be less predictable in pregnant than in non-pregnant women with some requiring an increased dosage of digoxin during pregnancy. As with all drugs, use should be considered only when the expected clinical benefit of treatment to the mother outweighs any possible risk to the developing foetus.
Adverse foetal effects have been reported in mothers with digitalis toxicity.
Although digoxin is excreted in breast milk, the quantities are minute and breast feeding is not contra-indicated.

Effects on ability to drive and use machines :
Since central nervous system and visual disturbances have been reported in patients receiving Digoxin Injection, patients should exercise caution before driving, using machinery or participating in dangerous activities.

Undesirable effects:
In general, the adverse reactions of digoxin are dose-dependent and occur at doses higher than those needed to achieve a therapeutic effect. Hence, adverse reactions are less common when digoxin is used within the recommended dose range or therapeutic serum concentration range and when there is careful attention to concurrent medications and conditions.

The side effects of digoxin in infants and children differ from those seen in adults in several respects.

Although digoxin may produce anorexia, nausea, vomiting, diarrhoea, and CNS disturbances in young patients, these are rarely the initial symptoms of overdose. Rather, the earliest and most frequent manifestation of excessive dosing with digoxin in infants and children is the appearance of cardiac arrhythmias, including sinus bradycardia.

In children, the use of digoxin may produce any type of arrhythmia. The most common are conduction disturbances or supraventricular tachyarrhythmias, such as atrial tachycardia (with or without block) and junctional (nodal) tachycardia. Ventricular arrhythmias are less common.

Sinus bradycardia may be a sign of impending digoxin intoxication, especially in infants, even in the absence of first-degree heart block. Any arrhythmia or alteration in cardiac conduction that develops in a child taking digoxin should be assumed to be caused by digoxin, until further evaluation proves otherwise.

Non-cardiac:
These are principally associated with overdosage but may occur from a temporarily high serum concentration due to rapid absorption. They include anorexia, nausea and vomiting and usually disappear within a few hours of taking the drug. Diarrhoea can also occur. It is inadvisable to rely on nausea as an early warning of excessive digoxin dosage.
Gynaecomastia can occur with long-term administration.
Weakness, dizziness, confusion, apathy, fatigue, malaise, headache, depression and even psychosis have been reported as adverse central nervous system effects.
Digoxin can produce visual disturbances (blurred or yellow vision).

Cardiac:
Digoxin toxicity can cause various arrhythmias and conduction disturbances. Usually an early sign is the occurrence of ventricular premature contractions; they can proceed to bigeminy or even trigeminy. Atrial tachycardias, frequently an indication for digoxin, may nevertheless occur with excessive dosage of the drug. Atrial tachycardia with some degree of atrioventricular block is particularly characteristic, and the pulse rate may not necessarily be fast. (See also Special Warnings and Precautions for Use). Digoxin produces PR prolongation and ST segment depression which should not by themselves

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