Bosch

For Medical Professional only

FALGAN

(Paracetamol B.P.)

(Product Specs.: M.S.)

1G/100ml Infusion

فالگن

اگرام/۱۰۰ ملی لیٹر انفیوژن

COMPOSITION

Each 100ml vial contains 1G paracetamol.

PHARMACOLOGICAL PROPERTIES

The precise mechanism of the analgesic and antipyretic properties of paracetamol has yet to be established; it may involve central and peripheral actions. **FALGAN** (Paracetamol) IV Infusion provide onset of pain relief within 5 to 10 minutes after the start of administration. The peak analgesic effect is obtained in 1 hour and the duration of this effect is usually 4 to 6 hours. **FALGAN** (Paracetamol) IV Infusion reduces fever within 30 minutes after the start of administration with duration of the antipyretic effect of at least 6 hours.

ADULTS:

Absorption:

FALGAN (Paracetamol) IV Infusion pharmacokinetics is linear up to 2g after single administration and after repeated administration during 24 hours. The maximal plasma concentration (Cmax) of paracetamol IV infusion observed at the end of 15-minutes intravenous infusion of 1g **FALGAN** is about 30µg/ml respectively.

Distribution:

The volume of distribution of paracetamol IV infusion is approximately 1L/kg. Paracetamol IV is not extensively bound to plasma proteins. Following infusion of 1g of **FALGAN** (Paracetamol) IV Infusion, significant concentrations of paracetamol (about 1.5µg/mL) were observed in the cerebrospinal fluid at and after the 20th minute following infusion.

Metabolism:

Paracetamol is metabolized mainly in the liver following two major hepatic pathways: glucuronic acid conjugation and sulphuric acid conjugation. The latter route is rapidly saturable at doses that exceed the therapeutic doses. A small fraction (less than 4%) is metabolised by cytochrome P_{450} to a reactive intermediate (N-acetyl benzoquinone imine) which, under normal conditions of use, is rapidly detoxified by reduced glutathione and eliminated in the urine after conjugation with cysteine and mercapturic acid. However, during massive overdosing, the quantity of this toxic metabolite is increased.

Elimination:

The metabolites of paracetamol are mainly excreted in the urine. 90% of the dose administered is excreted within 24 hours, mainly as glucuronide (60-80%) and sulphate (20-30%) conjugates. Less than 5% is eliminated unchanged. Plasma half-life is 2.7 hours and total body clearance is 18L/h.

NEONATES INFANTS AND CHILDREN:

The pharmacokinetic parameters of paracetamol observed in infants and children are similar to those observed in adults, except for the plasma half-life that is slightly shorter (1.5 to 2 h) than in adults. In neonates, the plasma half-life is longer than in infants i.e. around 3.5 hours. Neonates, infants and children up to 10 years excrete significantly less glucuronide and more sulphate conjugates than adults. Total excretion of paracetamol and its metabolites is the same at all ages.

SPECIAL POPULATION:

Renal insufficiency:

In cases of severe renal impairment (creatinine clearance 10-30 mL/min), the elimination of paracetamol is slightly delayed, the elimination half-life ranging from 2 to 5.3 hours. For the glucuronide and sulphate conjugates, the elimination rate is 3 times slower in subjects with severe renal impairment than in healthy subjects. Therefore, when giving paracetamol to patients with severe renal impairment (creatinine clearance≤ 30mL/min), the minimum interval, between each administration should be increased to 6 hours.

Elderly patients:

The pharmacokinetics and the metabolism of paracetamol are not modified in elderly subjects. No dose adjustment is required in this population.

INDICATIONS:

FALGAN (Paracetamol) IV Infusion is indicated for the short-term treatment of moderate pain, especially following surgery, and for the short-term treatment of fever, when administered by intravenous route is clinically justified by an urgent need to treat pain or hyperthermia and/or when other routes of administration are not possible.

DOSAGE:

The **FALGAN** (Paracetamol) IV Infusion contains 100ml solution and is restricted to adults, adolescents and children weighing more than 33kg (approximately 11 years old).

Adolescents and adults weighing more than 50kg:
FALGAN (Paracetamol) IV Infusion 1g per administration, i.e. one 100 ml vial, up to four times a day. The minimum interval between each administration must be 4 hours. The maximum daily dose must not exceed 4 g.

Children weighing more than 33kg (approximately 11years old), adolescents and adults weighing less than 50kg:
Paracetamol 15 mg/kg per administration, i.e. 1.5ml solution/kg up to four times a day. The minimum interval between each administration must be 4 hours. The maximum daily dose must not exceed 60 mg/kg (without exceeding 3g).

Children weighing more than 10kg (approximately 1 year old) and weighing less than 33kg:
Paracetamol 15mg/kg per administration, i.e. 1.5ml solution per kg up to four times a day. The minimum interval between each administration must be 4 hours. The maximum daily dose must not exceed 60mg/kg (without exceeding 2g)

Severe renal insufficiency:

It is recommended, when giving paracetamol to patients with severe renal impairment (creatinine clearance≤ 30mL/min), that the minimum interval between each administration be increased to 6 hours.

METHOD OF ADMINISTRATION:

The **FALGAN** (Paracetamol) IV Infusion is administered as a 15-minute intravenous infusion.

CONTRAINDICATIONS:

- In patients with hypersensitivity to paracetamol or to propacetamol hydrochloride (prodrug of paracetamol) or to any of the excipients.
- In cases of severe hepatocellular insufficiency.

WARNINGS:

It is recommended that a suitable analgesic oral treatment be used as soon as this route of administration is possible. In order to avoid the risk of overdose, check that no other medicines administered contain paracetamol. Doses higher than those recommended entail the risk of very serious liver damage. Clinical signs and symptoms of liver damage are not usually seen until two days, and up to a maximum of 4-6 days, after administration. Treatment with antidote should be given as soon as possible.

PRECAUTIONS:

Paracetamol should be used with caution in cases of:

- Hepatocellular insufficiency
- Severe renal insufficiency (creatinine clearance≤30mL/min) (see under Posology and method of administration and Pharmacokinetic properties)
- Chronic alcoholism
- Chronic malnutrition (low reserves of hepatic glutathione)
- Dehydration.

DRUG INTERACTION:

- Probenecid causes an almost 2-fold reduction in clearance of paracetamol by inhibiting its conjugation with glucuronic acid. A reduction in the paracetamol dose should be considered if it is to be used concomitantly with probenecid.
- Salicylamide may prolong the elimination $t_{1/2}$ of paracetamol.
- Caution should be taken with the concomitant intake of enzyme-inducing substances (see under overdose).

PREGNANCY:

Clinical experience of the intravenous administration of paracetamol is limited. However, epidemiological data from the use of oral therapeutic doses of paracetamol indicate no undesirable effects in pregnancy or on the health of the foetus / newborn infant. Prospective data on pregnancies exposed to overdoses did not show any increase in the risk of malformation.

No reproductive studies with the intravenous form of paracetamol have been performed in animals. However, studies with the oral route did not show any malformation or foetotoxic effects.

Nevertheless, **FALGAN** should only be used during pregnancy after a careful benefit-risk assessment. In this case, the recommended dosage and duration must be strictly observed.

LACTATION:

After oral administration, paracetamol is excreted into breast milk in small quantities. No undesirable effects on nursing infants have been reported. Consequently, **FALGAN** may be used in breast-feeding women.

UNDESIRABLE EFFECTS:

As with all paracetamol products, adverse drug reactions are rare >1/10000, <1/1000) or very rare (<1/10000). They are described below:

Organ System	Rare	Very Rare
	>1/10000, >1/1000	<1/10000
General	Malaise	Hypersensitivity reaction
Cardiovascular	Hypotension	
Liver	Increased level of hepatic transminases	
Platelet blood		Thrombocytopenia Leucopenia, Neutropenia

Very rare cases of hypersensitivity reactions ranging from simple skin rash or urticaria to anaphylactic shock have been reported and require discontinuation of treatment.

OVERDOSAGE:

There is a risk of poisoning, particularly in elderly subjects, in young children, in patients with liver disease, in cases of chronic alcoholism, in patients with chronic malnutrition and in patients receiving enzyme inducers. Overdosing may be fatal in these cases.

Symptoms generally appear within the first 24 hours are nausea, vomiting, anorexia, pallor and abdominal pain.

Overdose, 7.5 g or more of paracetamol in a single administration in adults or 140 mg/kg of body weight in a single administration in children, causes hepatic cytolysis likely to induce complete and irreversible necrosis, resulting in hepatocellular insufficiency, metabolic acidosis and encephalopathy which may lead to coma and death. Simultaneously, increased levels of hepatic transaminases (AST, ALT), lactate dehydrogenase and bilirubin are observed together with decreased prothrombin levels that may appear 12 to 48 hours after administration. Clinical symptoms of liver damage are usually evident initially after two days, and reach a maximum after 4 to 6 days.

EMERGENCY MEASURES:

In Patient:

Before beginning treatment, take a blood sample for plasma paracetamol assay, as soon as possible after the overdose. The treatment includes administration of the antidote, N-acetylcysteine (NAC) by the i.v. or oral route, if possible before the 10th hour. NAC can, however, give some degree of protection even after 10 hours, but in these cases prolonged treatment is given.

Symptomatic treatment:

Hepatic tests must be carried out at the beginning of treatment and repeated every 24 hours. In most cases hepatic transaminases return to normal in one to two weeks with full return of normal liver function. In very severe cases, however, liver transplantation may be necessary.

INCOMPATIBILITIES:

FALGAN should not be mixed with other medicinal products.

STORAGE:

Shelf life of **FALGAN** IV Infusion vial is of 2 years below 25°C. Do not refrigerate or freeze.

INSTRUCTION FOR USE, HANDLING AND DISPOSAL:

Before administration, the product should be visually inspected for any particulate matter and discolouration. It is for single use only. Any unused solution should be discarded.

PRESENTATION:

Flagan 1g/100ml in clear glass vial 1's pack

ہدایات:-

روشنی سے محفوظ رہے ڈاکٹری نسخی گریڈ سے کم درجہ حرارت پر رکھیں ورنہ دوا خراب ہو جائیگی۔
بچوں کی پہنچ سے دور رکھیں۔
ڈاکٹری ہدایت کے مطابق استعمال کریں۔
ریفریجریٹر میں رکھنے یا جمد ہونے سے بچائیں۔
انتباہ : صرف رجسٹرڈ میڈیکل پریکٹیشنر کے نسخے پر فروخت کے لئے۔

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