Information For the Use
Mannitol 10% + Glycerin 10%

Manglee Injection

Mannitol 10% + Glycerin 10% Injection

Introduction

Mannitol 10% + Glycerin 10% Injection is a **hyperosmotic agent** used primarily for **reducing intracranial pressure (ICP) and intraocular pressure (IOP)** in various medical conditions. It acts as an **osmotic diuretic**, drawing excess fluid out of tissues and into the bloodstream, which is then excreted by the kidneys.

This combination is commonly administered in **neurological emergencies, glaucoma, and cerebral edema** to **prevent or reduce brain swelling and excess fluid accumulation**.

Pharmacological Properties

1. Mannitol (10%) – Osmotic Diuretic

- Increases **plasma osmolality**, drawing water from tissues into the bloodstream.
- Reduces **intracranial pressure (ICP)** and **intraocular pressure (IOP)**.
- Enhances **urine output (diuresis)** in cases of acute kidney injury.
- Helps in **removing toxins and preventing renal failure** by flushing out harmful substances.

2. Glycerin (10%) – Hyperosmotic Agent

- Acts as a **plasma expander**, pulling excess fluid from brain and eye tissues.
- Reduces **brain edema (swelling)** by redistributing water to the vascular system.
- Helps in managing **acute glaucoma** by decreasing aqueous humor volume.
- Has **mild diuretic effects**, complementing Mannitol's action.

Together, these agents **rapidly reduce swelling** in conditions like **brain injury, stroke, and glaucoma** while promoting urine formation.

Indications & Uses

Neurological Indications:

- **Cerebral Edema:** Reduces brain swelling in head injuries, strokes, or brain tumors.
- **Increased Intracranial Pressure (ICP):** Used in conditions like traumatic brain injury, hydrocephalus, and infections like meningitis.
- **Stroke & Hemorrhagic Conditions:** Helps control brain swelling in ischemic or hemorrhagic strokes.

Ophthalmic Indications:

- **Acute Glaucoma:** Reduces intraocular pressure to prevent optic nerve damage.
- **Ocular Hypertension:** Used before and after eye surgeries to manage pressure.

Renal & Toxicology Uses:

- **Acute Kidney Injury (AKI):** Prevents kidney damage by improving urine flow.
- **Toxin Removal:** Helps eliminate substances like **ethylene glycol, barbiturates, or salicylates** in poisoning cases.
- **Oliguria (Low Urine Output):** Induces diuresis in cases of dehydration-related kidney failure.

Dosage & Administration

Dosage (General Guidelines):

- **Adults:**
  - **Cerebral Edema/ICP:** 1-2 g/kg body weight IV over 30-60 minutes.
  - **Acute Glaucoma:** 1.5-2 g/kg IV over 30 minutes.
  - **Oliguria:** 50-100 g IV infusion over 90 minutes.
- **Pediatric Dosing:** Adjusted based on weight and medical condition under physician guidance.

Administration:

- **Route:** Intravenous (IV) infusion.
- **Rate of Administration:**
    - Must be infused **slowly over 30-60 minutes** to prevent electrolyte imbalances.
    - **Monitor blood pressure and urine output** during administration.
- **Dilution:** Not required; administer directly under controlled settings.

Missed Dose:

- Given in hospital settings as per requirement; **missed doses are not a concern**.

Drug Interactions

Potential Interactions:

- **Diuretics (Furosemide, Hydrochlorothiazide):** Can enhance diuretic effects, increasing dehydration risk.
- **Nephrotoxic Drugs (Aminoglycosides, NSAIDs):** May worsen kidney toxicity—monitor renal function.
- **Antihypertensives (ACE Inhibitors, ARBs):** Blood pressure changes should be closely monitored.
- **Corticosteroids (Dexamethasone, Prednisolone):** Can potentiate fluid shifts and increase ICP-lowering effects.

Avoid Combining With:

- **Blood Transfusions:** Mannitol may cause hemolysis—administer separately.
- **Neurotoxic or Nephrotoxic Drugs:** May increase risks of toxicity in kidney-compromised patients.

Precautions & Warnings

Contraindications:

- **Severe Dehydration:** Can worsen fluid loss.
- **Pulmonary Edema or Congestive Heart Failure (CHF):** Increases fluid volume, worsening heart failure.
- **Severe Renal Failure (Anuria):** Ineffective if kidneys cannot produce urine.
- **Active Intracranial Bleeding (Except During Surgery):** Can worsen bleeding risks.
- **Hypersensitivity to Mannitol or Glycerin:** Rare but possible allergic reactions.

Use in Pregnancy & Lactation:

- **Pregnancy:** Use only if necessary (Category C).
- **Lactation:** Limited data—consult a physician before use.

Pediatric & Elderly Use:

- **Pediatrics:** Used with caution in children, requiring dose adjustments.
- **Elderly:** Monitor for **electrolyte imbalance and dehydration risks**.

Side Effects

This injection is **well tolerated** when administered correctly but may cause:

Common Side Effects:

- **Nausea, Vomiting, or Headache:** Due to rapid fluid shifts.
- **Electrolyte Imbalance (Low Sodium or Potassium):** May cause muscle weakness or irregular heartbeat.
- **Dehydration & Excessive Thirst:** Due to increased urine output.

Rare but Serious Side Effects:

- **Pulmonary Edema:** Shortness of breath, chest tightness (in fluid overload cases).
- **Hypotension or Hypertension:** Blood pressure fluctuations may occur.
- **Acute Kidney Injury (Rare):** May occur in patients with pre-existing kidney issues.
- **Seizures or Confusion:** Seen in cases of excessive ICP reduction.

Seek immediate medical attention if severe symptoms occur.

Monitoring & Follow-Up

- **Urine Output & Hydration Status:** Ensure adequate kidney function.
- **Electrolytes (Sodium, Potassium, Chloride):** Monitor for imbalances.
- **Osmolarity Levels:** Maintain safe plasma osmolarity (avoid excessive shifts).
- **Neurological & Cardiovascular Signs:** Monitor for improvement or adverse effects.

Storage & Handling

- Store at **room temperature (below 25°C)**, protected from light and moisture.
- Inspect for **crystallization** before use—if present, warm and dissolve before administration.
- Use only **clear, colorless solutions**—discard if cloudy or contains particles.

Conclusion

Mannitol 10% + Glycerin 10% Injection is a **rapid-acting osmotic diuretic** that effectively **reduces intracranial and intraocular pressure**, making it essential in **neurological, renal, and ophthalmic emergencies**. Proper **dosing, hydration monitoring, and electrolyte balance** are critical to prevent complications like **dehydration, kidney dysfunction, or cardiovascular instability**.

It is a **life-saving intervention** in cases of **brain edema, acute glaucoma, and toxin removal**, requiring careful **administration in hospital settings** under expert supervision.

Manufactured in India for:

Cafoli™
LIFECARE

Cafoli Lifecare Pvt. Ltd.
(An ISO 9001: 2015 Certified Co.)
Plot no.: 367-FF, Industrial Area Phase-I,
Panchkula-134113
TM: Trademark Applied for