

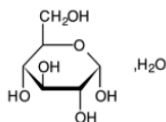
### 1.4.3 PIL

#### Glucose 5% Intravenous Infusion

Product Name: Glucose 5% Intravenous Infusion

Main ingredients and chemical name: Glucose

Structural formula:



Molecular formula : C<sub>6</sub>H<sub>12</sub>O<sub>6</sub>·H<sub>2</sub>O

Molecular weight: 198.17

**【Character】** The product is a colorless, or almost colorless clear liquid, with sweet flavor.

**【Pharmacology and toxicity】**

Glucose is one of the heat origin for human body, 16.7kJ heat can be produced from one gram glucose, so glucose is usually be used for the supplement of heat and treatment of hypoglycaemia. When administered together with insulin by phleboclysis, because the synthesis of glucogen must be joined with potassium, thus the potassium enter into cell to make the concentration of potassium-plasma decreased, the glucose injection can be used for the treatment of hyperpotassemia. Glucose injection is administered fast intravenously can make tissue dehydrate, so the product can be used as dehydrating agent. Moreover, glucose is main material which can maintain and adjust osmotic pressure of peritoneum dialysate.

**【Pharmacokinetics】**

Glucose administered by phleboclysis usually enter the blood circulation directly. It is oxidized completely to produce CO<sub>2</sub> and H<sub>2</sub>O and excreted by lung and kidney, accompanied with the production of heat. Available capacity of common people for glucose is about 6mg/kg/minute.

**【Indications】**

- (1) Used for supplement of energy and body liquid; used for the scarcity of feeding and body liquid caused by all cases (such as vomiting, diarrhea), intravenous hyperalimentation, ketosis;
- (2) hypoglycaemia;
- (3) hyperpotassemia;
- (4) Hypertonic solution could be used as dehydrant for body tissue.;
- (5) Used for the preparation of peritoneum dialysate;
- (6) Used as medicine diluent;
- (7) Used for the test of dosis tolerate of glucose administered by phleboclysis;
- (8) Used for the preparation of GIK.

**【Dosage and administration】**

- (1) Heat supplement: When the patients take little food or even can not take food for some causes, 25% glucose injection can be administered by phleboclysis, as well as the body fluid was supplied. The dose can be estimated according to the heat energy on demand.
- (2) Intravenous hyperalimentation treatment: Glucose is one of the most important energy material when used with this method. For the non-protein heat, the proportion of the heat supplied by glucose and fat is 2: 1, and the clinical dosage should be estimated according to the heat supplement on demand. As per the requirement of liquid supplement, the glucose can be prepared to get the injection with the different concentration ranged 25~50%, and the insulin can be added from necessity, the quantity of insulin is 1 unit vs 5~10g. Since the administration of high-concentration glucose solution is irritative for the vein, at the same time adipose emulsion should be used, the large vein is usually elected to drip by intravenous.
- (3) For hypoglycemia, 50% glucose injection with the dose 20~40ml may be administered by mainline for the serious firstly.
- (4) For ketosis, 5~25% glucose injection is administered by drip for the serious and 100g daily can control the disease.

(5) For the isotonia dehydration, 5% glucose injection can be administered by drip.

(6) For hyperpotassemia, 10~25% glucose injection, and every 2~4g glucose combined with 1 unit insulin is administered by drip can reduce the concentration of serum potassium. But this method only lead to the potassium from outside cell to the inner, and the total potassium in body remain unchangeable. If any actions are not taken to excrete the potassium, there still exists the possibility of hyperpotassemia.

(7) For tissue dehydration, high-concentration glucose injection (usually 50% glucose injection) should be administered fleetly by intravenous injection with the dose 20~50ml, but the effect may be very temporary. And during the clinical usage hyperglycemia should be avoided, and this method is seldom used at present. When used for the adjustment of osmosis pressure of peritoneum dialyszte, 50% glucose injection with the dose 20ml can make the osmosis pressure 1L increase 55mOsm/kgH<sub>2</sub>O.

**【Side-effect】**

(1) Phlebitis may happen when high-concentration glucose injection was administered by drip, but the occurrence rate will decrease when administered to the large vein.

(2) Exosmosis of high-concentration glucose injection may lead to locality gall.

(3) Reactive hypoglycemia: when administered combined with insulin with overdose, reactive hypoglycemia may happen for the patients with original hypoglycemia tendency and when intravenous hyperalimention treatment was ceased suddenly.

(4) Hyperglycemia non-ketosis coma: It is usually happen when the high-concentration was administered or intravenous hyperalimention treatment was used for the patients who with the diabetes, stress condition, with the treatment of high-dose glucocorticoid, or for the patients who received peritoneal dialysis for the treatment of toxuria.

(5) Electrolyte disturbance: Glucose is administered singly for long term may lead to hypo-potassium, hypo-sodium, and hypophosphatemia.

(6) Original cardiac functional insufficiency;

(7) Hyperpotassemia, the cases may happen occasionally when the patients with I diabetes is administered with high concentration glucose injection.

**【Contraindication】**

(1) diabetes ketosis acidose;

(2) hyperglycemia non-ketosis hyperosmotic state;

**【Attention】**

(1) High dose glucose during parturition may stimulate the secretion of insulin for the fetus, which can lead to glycopenia.

(2) The product should be administered cautiously in the following cases: ①Tolerance test of oral glucose for the patients whose stomach has been cut partially may lead to dumping syndrome and hypoglycemia. ②the patients with periodic paralysis or hypopotassemia; ③Stress condition or glucocorticoid administration may lead to hyperglycemia; ④When the product is administered for the patients with dropsy, cardiac and kidney insufficiency, and ascites due to cirrhosis, water retention may happen, so the administration dosage should be controlled; the drip speed should be controlled strictly for the patients with cardiac functional insufficiency.

**【Pregnancy and Lactation】**

High dose glucose during parturition may stimulate the secretion of insulin for the fetus, which can lead to glycopenia.

**【Pediatric Use】**

Over-rapidness and overabundance may lead to cardio palmus, and cardiac arrhythmia, or even acute left ventricular failure

**【Geratology】**

Over-rapidness and overabundance may lead to cardio palmus, and cardiac arrhythmia, or even acute left ventricular failure

**【Specification】** 500ml:25g

**【Storage Condition】** Store below 25 °C. Protect from sunlight. Keep out of reach of children



5% Glucose Injection 500ml Plastic bag  
**SHIJIAZHUANG NO. 4 PHARMACEUTICAL CO., LTD.**

【Package】 500mL PP bottle

【Expiry date】 3 years

【Manufacturer】

Name: Shijiazhuang No.4 Pharmaceutical Co., Ltd.