SUMMARY OF PRODUCT CHARACTERISTICS

1. NAME OF THE MEDICINAL PRODUCT

POLIFLEKS 0.45% Sodium Chloride Solution for IV Infusion
Sterile

2. QUALITATIVE AND QUANTITATIVE COMPOSITION

Active Substance:
Each 100 ml of solution contains 0.45 g sodium chloride.
Ionic concentrations:

- Sodium: 77 mEq/l
- Chloride: 77 mEq/l

Osmolarity: 154 mOsm/liter
pH: 4.5-7.0

Excipients:
For a full list of excipients, see section 6.1.

3. PHARMACEUTICAL FORM

Sterile solution for intravenous infusion

4. CLINICAL PARTICULARS

4.1 Therapeutic indications

POLİFLEKS 0.45% SODIUM CHLORIDE is indicated for the treatment of hypertonic extracellular dehydration and for the treatment of hypovolemia, in cases where it is not appropriate to take fluids and electrolytes in a normal way, in patients who need sodium as clinical, patients who require parenteral fluid support. This solution provides water and salt to body.

In addition, sodium chloride solution can be used as a diluent or carrier to deliver other drugs when necessary. It can be given by mixing with drugs through vein.

4.2 Posology and method of administration

Posology/frequency and duration of administration

The dose and infusion rate to be applied are adjusted by the physician according to the patient's age, weight, clinical and biological status (acid-base balance), patient's hydration status, and co-administration.

Recommended dosage for adults, elderly and adolescents: 500 ml-3 liters / 24 hours

Recommended dosage for infants and children: 20-100 ml for per 24 hours and per kg of body weight. (depends on age and total body mass)

In cases where it is used as a carrier or diluent, the recommended dose is between 50-250 ml for each dose of the product used.

Rate of administration:

Infusion rate varies depending on the clinical condition of the patient. Generally;

- 40ml / kg / 24 hours for adults, elderly and adolescents,
- For average 5ml / kg / h pediatric patients; these values may vary with age:
    - for 6-8ml / kg / h babies,
    - For children who have started walking 4-6 ml / kg / h,
    - For 2-4 ml / kg / h school age children.

Note: The age range for babies and toddlers is 28 days-23 months
The age range for children and school-age children is 2 years-11 years.

When this solution is used as a diluent for other injectable products, the infusion rate and dose are adjusted as required by that product.

Method of administration:
Application is done intravenously with sterile pyrogen sets.
Monitoring: Fluid balance and plasma electrolyte concentration should be monitored during treatment.

Additional information on special populations:

Renal/Hepatic failure:
No dosage recommendations are made for this patient group, as there is no specific study for this population.

Pediatric population:
There are no published studies on safety and efficacy in children. Safety and efficacy in pediatric patients are generally similar to that in adult patients. Fluid volume affects fluid and electrolyte balance in newborns and very young children. Therefore, application should be done carefully.

Since renal functions are not sufficiently developed in newborns and very young children, excess sodium can be retained. For this reason, if repeated sodium chloride infusions are to be made, it should be done after determining the serum sodium level.

Geriatric population:
There is no specific dosage recommendation for this group of patients, as there is no specific study for this population. However, in general, caution should be exercised in dose selection considering that decreased liver, kidney or heart function and the use of other drugs are more common in this population.

4.3 Contraindications
The solution is contraindicated in cases where the application of sodium or chloride is clinically harmful.
This solution is contraindicated in patients who show the following findings:

- Hyponatremia, hypochloremia
- Extracellular hyperhydration or hypervolemia,
- Renal Serious renal failure (accompanied by oliguria / anuria)
- Liquid and sodium retention,
- Unbalanced cardiac failure,
- Edema and cirrhotic ascites.

If there are added products, their contraindications should also be considered.

4.4 Special warnings and precautions for use
The administration of intravenous solutions can cause fluid and/or solute overload resulting in dilution of serum electrolyte concentrations, overhydration, congested states or pulmonary edema. The risk of dilution is inversely proportional to the electrolyte concentration. The risk of congested states with peripheral and pulmonary edema is directly proportional to the electrolyte concentration.

The application requires regular and careful observation. Clinical and biological parameters, especially serum electrolyte levels, should be monitored. High volume infusion requires careful monitoring in patients with cardiac, renal and pulmonary insufficiency.
Fluid balance and electrolyte concentrations should be monitored during treatment.

The solution contains 77 mmol/l sodium (Na^+) and 77 mmol/l chloride (Cl^-); the osmolarity is about 154 mOsm/l.

Sodium-containing solutions should be used with caution in patients with congestive heart failure, severe kidney failure, and in patients with edema with sodium retention. In patients with reduced kidney function, administration of solutions containing sodium ion may lead to sodium retention.

Sodium salts should be administered with caution in patients with all kinds of conditions associated with hypertension, preeclampsia and sodium retention.

Excessive application of potassium-free solutions can lead to an important hypokalemia condition. Serum potassium levels should be maintained at normal levels and potassium should be added to treatment if necessary.

In the case of a long infusion, the doctor may find it appropriate to give an appropriate nutritional supplement. As with all parenteral preparations, incompatibility should be checked when the additive is used.

Essential electrolytes, minerals and vitamins should also be added to the treatment when necessary. Sodium-containing solutions should be administered with caution in patients who use corticosteroids or corticotropin, or who have salt retention in the body for other reasons. In case of renal or cardiovascular insufficiency with or without congestive heart failure, sodium-containing solutions should be administered with caution, especially in patients after surgery or if they are older.

In order to minimize the risk of incompatibility with any other medication to be added to the solution, it should be checked whether there is any turbidity or precipitation in the final mixture to be infused periodically before, during and after application.

If the application is to be done with a controlled infusion pump, it should be noted that the pump has stopped running before the bag is completely emptied; otherwise, air embolism may occur.

Solution is intended for intravenous administration using sterile equipment. It is recommended that intravenous administration apparatus be replaced at least once every 24 hours.

Use only if solution is clear and container and seals are intact.

Laboratory tests:
Clinical evaluation and periodic laboratory tests should be performed to monitor fluid balance, electrolyte concentrations, and changes in acid-base balance in long-term parenteral applications or where the patient's condition requires.

Warnings and precautions for pediatric use:

The efficacy and safety of solutions in pediatric patients have not been demonstrated in duly regulated and controlled studies.

Fluid and electrolyte balance in newborns or very young babies can be affected even with small amounts of fluid. Caution should be exercised in the treatment of newborns, especially those born prematurely, whose kidney function is not fully developed and whose ability to remove solvents with liquids is limited. Fluid intake, urine volume, and serum electrolyte levels should be closely monitored (see “Warnings” and “Posology and method of administration” sections).

Warnings and precautions for use in elderly:

In clinical studies conducted, there were not enough people aged 65 and over to determine whether the elderly responded differently than young adults. According to other reported clinical experience, there were no differences in response between the elderly and young adults.

In general, the dose should be carefully selected in elderly patients. It is generally recommended to start the treatment at the lowest dose range, considering that liver, kidney or cardiac functions may be decreased in the elderly, other drugs may be used together or other diseases may be present than the condition they are trying to treat.

These drugs are largely excreted through the kidneys, so patients with impaired kidney function are at increased risk of toxic reactions to these drugs. Caution is required in dose selection in elderly patients, as decreased kidney function is more common in older adults than in young adults; monitoring of kidney function useful (See "Alerts" section).

4.5 Interaction with other medicinal products and other forms of interaction

Sodium-containing solutions can cause sodium and water retention (edema and hypertension) in patients receiving corticosteroids / steroids and carbenoxolone.

Lithium toxicity may worsen due to sodium loss.

4.6 Pregnancy and lactation

General recommendation

Pregnancy category: C

Women with childbearing potential/Contraception

POLİFLEKS 0.45% SODIUM CHLORIDE can be used in necessary situations by controlling the electrolyte and fluid balance.

Pregnancy

Studies on animals are insufficient in terms of effects on pregnancy / and-or / embryonal / fetal development / and-or / birth / and-or / postpartum development (see section 5.3). The potential risk for humans is unknown. POLIFLEKS 0.45% SODIUM CHLORIDE should be used in pregnant women only if it is very necessary.

Lactation

It is not known whether this drug passes into breast milk. Since many drugs are known to pass into breast milk, POLIFLEKS 0.45% SODIUM CHLORIDE should be used with caution in nursing mothers.

When another product is added to the product, the effect of the added product on pregnancy and lactation should also be considered.

4.7 Effects on ability to drive and use machines
It is practically not possible to drive vehicles during the use of infusion solutions. It has no known effect on the ability to drive and use machines after use.

4.8 Undesirable effects
Undesirable effects can be caused by the lack or excess of ions in the solution; therefore, sodium and chloride levels should be closely monitored.

Also, be aware that additional medications that may be diluted may cause adverse effects. In such a case, the product information of the additional drug administered should be checked. When side effects are seen during application, the infusion should be stopped and the patient's condition should be evaluated and appropriate treatment measures should be taken.

Very common (≥ 1/10); Common (≥ 1/100 to < 1/10); Uncommon (≥ 1/1.000 to < 1/100); Rare (≥ 1/10.000 to < 1/1.000); Very rare (< 1/10.000); Not known (cannot be estimated from the available data)

Metabolism and nutrition disorders
Unknown: Water retention in patients with cardiac disorder and pulmonary edema, aggravation in congestive heart failure (due to hypernatremia); Acidosis (due to hyperchloremia); Fluid and electrolyte imbalances *, Hyponatremia.

Nervous system disorders
Unknown: Headache, dizziness, restlessness, irritation, convulsions, coma and death (due to hypernatremia)

Cardiac disorders
Unknown: Heart failure in patients with pulmonary edema and cardiac disease

Vascular disorders
Unknown: Hypertension (due to hypernatremia), thrombophlebitis, venous thrombosis.

Respiratory, thoracic and mediastinal disorders
Unknown: Pulmonary edema, respiratory depression and respiratory arrest (due to hypernatremia)

Gastrointestinal disorders
Unknown: nausea, vomiting, diarrhea, abdominal cramps, thirst sensation, decreased saliva (due to hypernatremia)

Skin and subcutaneous tissue disorders
Unknown: decreased sweating (due to hypernatremia)

Musculoskeletal and connective tissue disorders
Unknown: Twitching and stiffness in muscles (due to hypernatremia)

Kidney and urinary disorders
Unknown: renal failure (due to hypernatremia); polyuria

General Disorders and Administration Site Conditions
Unknown: fever, malaise (due to hypernatremia)

Surgical and medical procedures ***
Not known: Febrile reactions; Infection at the injection site; Local pain or reaction;
Vein irritation; The development of venous thrombosis and filebit starting from the injection site; Penetration out of the vein; hypervolemia
* Hypokalaemia, hypomagnesemia and hypophosphatemia etc.
** Adverse effects usually seen as a result of incorrect parenteral administration.
*** Adverse effects that can be seen depending on the application technique

Be aware that additional medications administered by dilution may also cause adverse effects. In such a case, the product information of the additional drug administered should be checked.

In case of undesirable effects, the infusion should be discontinued, the patient should be evaluated, appropriate therapeutic measures should be taken, and the solution left in the bag should be stored for examination if necessary.

4.9 Overdose and therapy
If fluid or solute loading due to excessive infusion is observed during parenteral treatment, the patient should be re-evaluated and appropriate corrective treatments should be initiated.

Excessive fluid infusion or excessive fluid overload may lead to edema, hemodilution and cardiac disturbances. (Especially in case of defect in renal extraction, such as oliguria / anuria) In this case, extra renal dialysis may be required.

In cases where sodium excretion from the kidneys is impaired, extra sodium retention can cause pulmonary and peripheral edema. When sodium chloride is given in therapeutic doses, hypernatremia rarely occurs. The most serious effect of hypernatremia is drowsiness and blurring in consciousness, and brain dehydration, which can later progress to convulsions, coma, respiratory failure and death. Other symptoms include thirst, saliva and decreased tear secretion, fever, tachycardia, hypertension, headache, dizziness / dizziness, restlessness, irritability, and weakness.

Overdosing of chloride-containing salts can lead to a loss of bicarbonate that causes an acidifying effect.
If the dose is accidentally exceeded during treatment, administration should be discontinued and the patient should be monitored for signs and symptoms associated with the drug administered. If necessary, symptomatic and supportive treatments should be applied for these symptoms.

5. PHARMACOLOGICAL PROPERTIES

General features

The pharmacodynamic and pharmacokinetic properties of POLIFLEKS 0.45% SODIUM CHLORIDE are dependent on sodium and chloride.

5.1 Pharmacodynamic properties

Pharmacotherapeutic Group: Electrolyte Solutions
ATC Code: B05XA03

Ions, such as sodium, circulate through the cell membrane, using various mechanisms of transport, among which is the sodium pump (Na+/K+-ATPase) Sodium plays an important role in neurotransmission, cardiac electrophysiology and in renal metabolism.

Chloride is mainly an extracellular anion. Intracellular chloride is in high concentration in red blood cells and gastric mucosa. Reabsorption of chloride follows reabsorption of sodium.

5.2 Pharmacokinetic properties

Absorption:
Active substances in drugs administered intravenously reach their maximum plasma concentrations immediately after administration.

Distribution:
Sodium and chloride are distributed in blood and extracellular compartments.

Sodium distribution varies according to tissues: it is fast in muscles, liver, kidney, cartilage and skin; it is slow in erythrocytes and neurons; it is very slow in the bone.

Chloride is mainly distributed in extracellular fluids.

Biotransformation
The half-life after radioactively labeled sodium ($_{24}Na$) injection is 11-13 days for 99% of injected sodium and one year for the remaining 1%.

Chloride closely monitors sodium metabolism and changes in the acid-base balance of the body are reflected by changes in chloride concentration.

Elimination:
Sodium is excreted primarily by the renal route, but at the same time the vast majority is reabsorbed by the renal route. A small amount of sodium is excreted with feces and sweat.

Since chloride metabolically monitors sodium, it is mainly excreted by the renal route but also in lesser amounts in feces and sweat.

Linearity/Non-linearity:
Electrolytes in the POLİFLEKS 0.45%SODIUM CHLORIDE composition show a linear pharmacokinetic behavior when administered to the body at therapeutic doses to complete their deficiency.

5.3 Preclinical safety data
Because the components of the solution are physiological components of human and animal plasma and are not expected to show toxic effects in clinical practice, studies with POLİFLEKS 0.45% SODIUM CHLORIDE have not been performed to evaluate the effects of carcinogenic, mutagenic potential and fertility.

The safety of medications added into the solution must be considered separately.

6. PHARMACEUTICAL PARTICULARS

6.1 List of Excipients
Water for injection

6.2 Incompatibilities
Incompatibility of the medicinal product to be added with the solution must be assessed before addition. In the absence of compatibility data, this solution must not be mixed with other medicinal products.

Before adding drugs to the solution, it should be verified that the pH of POLİFLEKS 0.45% SODIUM CHLORIDE is water soluble and stable.

In the absence of data on incompatibility, this solution should not be mixed with other drugs. When a drug is added to the solution, it is the healthcare professional's responsibility to check for incompatibility. Checks should be made regarding the discoloration, precipitation, insoluble complexes or the presence of crystals.

Some of the incompatible drugs with POLİFLEKS 0.45% SODIUM CHLORIDE:
• Ampicillin sodium
• Mitomycin
• Amphotericin B

Erythromycin lactobinate
Drugs known to be incompatible should not be added to the solution.

6.3 Shelf Life

24 months

6.4 Special precautions for storage

There is no special storage condition, store at room temperature below 25 ° C in a direct light-free place.

6.5 Nature and contents of container

100, 150, 250, 500 and 1000 PP bags.
Product has in two forms: with and without set.

6.6 Special precautions for disposal and other handling

Directions for use

Unused products or waste materials should be disposed of in accordance with the "Medical Waste Control Regulation" and "Packaging and Packaging Waste Control Regulation".

Only products that are clear, particle-free and intact in packaging integrity should be used.

The administration should be started as soon as possible after the application set is attached to the product.

In order to prevent an air embolisation that may occur due to the residual air in the bag, no serial connection should be made with other infusion fluids.

The solution should be applied using the aseptic technique through the sterile application set. In order to prevent air from entering the system, liquid must be passed through the application set before use.

Additional medication may be added before and during infusion with the aid of Injection a needle in aseptic conditions. The final product’s isotonicity should be determined before parenteral administration.

The added drug must be completely mixed with the solution before application to the patient. Solvents containing additional drug should be used immediately after drug addition; it should not be stored for later use.

Addition of additive or wrong application technique may result in a fever reaction due to pyrogen contamination of the product. If an adverse reaction occurs, the infusion should be terminated immediately.

It is disposable.

Do not store partly used solutions

Do not reconnect partly used bags to the administration systems.

To open:
1. Check the integrity of the outer packaging and check for leaks; Do not use if the packaging is damaged.
2. Tear off the protective outer packaging.
3. Check for robustness by squeezing the inner bag firmly. Check the clarity of the solution in the bag and that is free of foreign substances.

Preparation for administration:
1. Suspend the bag.
2. Remove the protective cover from the application port.
3. Stick the spike of the application set firmly in the application tip.
4. The instructions for use of the set must be followed for the administration of the solution.

Addition of additional drug:
Attention: As with all parenteral solutions, all substances to be added to the product must be compatible with the product. If an addition is to be made, compatibility should be checked in the final mixture before administration to the patient.

Adding medication before administration
1. Disinfect the drug applicator.
2. Inject the drug to be added using syringe with 19 to 22 gauge needle.
3. Mix the solution and the added drug thoroughly. For high density medication such as potassium chloride, tap gently to the ports of the bag, while ports are upright to allow mixing.
Attention: Do not store bags mixed with additional medication.

Adding medication during administration
1. Close the clamp.
2. Disinfect the drug applicator.
3. Inject the drug to be added using syringe with 19 to 22 gauge needle.
4. Remove the solution from the hanger and invert.
5. In this position, tap gently both ports to allow mixing of solution and medication.

6. Return bag to its former position and open the clamp and continue administration.

7. MARKETING AUTHORISATION HOLDER

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251/93

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