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SUMMARY OF PRODUCT CHARACTERISTICS

1. NAME OF THE MEDICINAL PRODUCT

Ardeaelytosol RL 1/1 infusion solution

2. QUALITATIVE AND QUANTITATIVE COMPOSITION

1000 ml of infusion solution contains:

Natrii chloridum	6.00 g
Kalii chloridum	0.30 g
Calcii chloridum hexahydricum (or 0.27 g calcii chloridum dihydricum)	0.40 g
Natrii lactas	3.10 g

Electrolyte content:

Na^+ [mmol/l]	130.2
K^+ [mmol/l]	4.0
Ca^{2+} [mmol/l]	1.8
Cl^- [mmol/l]	110.2
Lactate ($C_3H_5O_3^-$) [mmol/l]	27.6
Osmotic pressure [kPa]	606
pH	4.8-7.0

For the full list of excipients, see the section 6.1.

3. PHARMACEUTICAL FORM

Infusion solution

Description of the product: clear, colorless solution

4. CLINICAL PARTICULARS

4.1. Therapeutic indications

It is used for water and electrolytes supplementation in case of isotonic and hypotonic dehydration from various reasons, well-balanced acid base balance or a slight tendency to acidosis, in traumas, minor blood losses or burns.

For rehydration after compensation with colloid plasma-expanders.

As an initial solution for rehydration in cases of acute losses in diarrhoeal diseases in paediatrics.

Carrying solution for other drugs. The product is suitable for adults or children without any age restriction.

4.2. Posology and method of administration

The dosage is individual, guided by the indication and patient's general condition.

Maximum daily dose 30-45 ml/kg, maximum administration rate 5-10 ml/kg/hour.

Average daily dose is 500 - 1500 ml.

In paediatrics as an initial solution for rehydration in cases of acute losses in diarrhoeal diseases in dose of 20 ml/kg/24 hours, other therapy according to the condition and laboratory findings.

Method of administration:
Intravenous drop infusion in the closed system.

4.3. Contraindications

Hypertonic dehydration, hyperkalemia, hypernatremia, hyperchloremia, hypoxemia, hyperlactatemia, severe metabolic alkalosis.

Hyperhydration, renal failure (oliguria, anuria), decompensated cardiac insufficiency, pulmonary or cerebral oedema, a major stage of hypertension.

4.4. Special warnings and precautions for use

With regard to the presence of lactate, the product is suitable only in patients with normoxemia, unimpaired liver functioning and sufficient liver perfusion.

Fluid balance, serum electrolytes and acid base balance may need to be monitored before and during administration. Sodium serum levels should be monitored very carefully, especially in patients with increased non-osmotic vasopressin release (syndrome of inappropriate antidiuretic hormone secretion, SIADH) and in patients co-medicated with vasopressin agonist drugs due to the risk of hyponatremia (see sections 4.4, 4.5 and 4.8).

High volume infusions must be used under specific monitoring in patients with cardiac or pulmonary failure, and in patients with non-osmotic vasopressin release (including SIADH), due to the risk of hyponatraemia (see below).

Hyponatremia

Acute hyponatremia can lead in acute hyponatremic encephalopathy (cerebral oedema).

Children, women in the fertile age and patients with reduced cerebral compliance (e.g. meningitis, intracranial bleeding, cerebral contusion, and cerebral oedema) are at particular risk of the severe and life-threatening brain swelling caused by acute hyponatremia.

4.5. Interaction with other medicinal products and other forms of interaction

Drugs leading to an increased vasopressin effect

The below listed drugs increase the vasopressin effect, leading to reduced renal electrolyte free water excretion and an increased risk of hyponatremia following inappropriately balanced treatment with i.v. solutions (see sections 4.2, 4.4 and 4.8).

- Drugs stimulating vasopressin release include:
  chlorpropamide, clofibrate, carbamazepine, vincristine, selective serotonin reuptake inhibitors, 3,4-methylenedioxy-N-methamphetamine, ifosfamide, antipsychotics, narcotics.
- Drugs potentiating vasopressin action include:
  chlorpropamide, NSAIDs, cyclophosphamide.
- Vasopressin analogues include:
  desmopressin, oxytocin, vasopressin, terlipressin.

Other medicinal products increasing the risk of hyponatremia also include diuretics in general and antiepileptics such as oxcarbazepine.

4.6. Fertility, pregnancy and lactation

The medicinal product of Ardeaelytosol RL 1/1 should be administered with special caution in pregnant women during labour particularly as to serum-sodium if administered in combination with oxytocin (see sections 4.4, 4.5 and 4.8).

The product should be used with caution in cases of pregnancy toxaemia.

4.7. Effects on ability to drive and use machines

The product of Ardeaelytosol RL 1/1 (Infusio Ringeri cum natrio lactico) is administered only in medical facilities and that is why the assessment of its impact on ability to drive or use machines is not relevant.

4.8. Undesirable effects

No direct undesirable effects are given with the product of Ardeaelytosol RL 1/1; there is a possibility of general undesirable effects connected with an unsuitable management of the infusion therapy.

Frequency of undesirable effects, as given below, is defined according to the following convention:

Very common (≥ 1/10); common (≥ 1/100, < 1/10); uncommon (≥ 1/1,000, < 1/100); rare (≥ 1/10,000, < 1/1,000); very rare (< 1/10,000); not known (cannot be established from the available data).

Organ system class according to MedDRA database	Character of undesirable effect	Frequency of occurrence
Blood and lymphatic system disorders	Ion balance breakdown	Not known
Metabolism and nutrition disorders	Hyperlactatemia	Not known
	Hyponatremia*	Not known
Cardiac disorders	Oedemas	Not known
	Cardiac failure	Not known
Renal and urinary disorders	Overhydration	Not known
Nervous system disorders	Acute hyponatremic encephalopathy *	Not known

* Hyponatremia may cause irreversible brain injury and death due to development of acute hyponatremic encephalopathy (see sections 4.2, 4.4 and 4.5).

Reporting of suspected adverse reactions

Reporting suspected adverse reactions after authorisation of the medicinal product is important. It allows continued monitoring of the benefit/risk balance of the medicinal product. Healthcare professionals are asked to report any suspected adverse reactions to the address:

Státní ústav pro kontrolu léčiv (State Institute for Drug Control)
Šrobárova 48
100 41 Praha 10

Website: www.sukl.cz/nahlasit-nezadouci-ucinek

4.9. Overdose

If well-balanced water and ion balance is respected, then no overdose is to be taken into account.

In case of inadequately managed infusion therapy, disorders of ionic balance, overhydration, oedemas, cardiovascular decompensation can occur. In such case, the infusion should be stopped, and, if need be, diuretics administered.

No case of overdose has been reported.

5. PHARMACOLOGICAL PROPERTIES

5.1. Pharmacodynamic properties

Pharmacotherapeutic group: infundabilium, ATC code: B05BB01 (Intravenous solutions – solutions affecting the electrolyte balance - electrolytes).

Basic, almost iso-osmotic infusion solution containing basic ions and lactate.

With regard to a balanced ratio of chloride ions to lactate ions, the administration of the solution has no significant influence on acid base balance; it has only a slight alkalization effect.

5.2. Pharmacokinetic properties

- General information – no active metabolites are generated
- Characterization of the active substances – it contains simple inorganic salts – body natural ions. They are water-soluble, fat-insoluble.
- Characterization after the administration in patients – it is a product intended for intravenous use. It persists in the blood circulation only for a few tens of minutes after i.v. administration; it leaks into extravascular compartment easily.

Electrolytes are distributed in the body according to the concentration gradients in extracellular fluid. Free water is distributed according to the concentration gradient in all compartments.

Ionic balance is dependent on the excretion of individual ions by kidneys and is particularly subordinated to mineralocorticoids regulation. Water homeostasis is regulated by antidiuretic hormone.

Lactate is changed into pyruvate and then into bicarbonate provided that the liver cells are undamaged having a sufficient oxygen supply.

5.3. Preclinical safety data

It is a product with a long-term usage ("well implemented therapeutic use") in which no preclinical studies had been performed with its introduction into the therapy.

There have been no undesirable effects known from the literature. The product used according to the recommended method is entirely safe.

6. PHARMACEUTIAL PARTICULARS

6.1. List of excipients

Aqua pro iniectione

6.2. Incompatibilities

The product is compatible with the most of medicines commonly used. No physical or chemical incompatibilities are known except of those with solutions with oxidants content or solutions showing a different pH value. It contains Ca^{2+} ions; after adding of phosphates, carbonates, hydrogen carbonates or oxalates, clots formation can occur, especially in case of a prolonged standing.

6.3. Shelf life

3 years provided that the package is intact.

The shelf life after the first opening:

Chemical and physical stability before the use after the opening was confirmed for 48 hours at 25°C.

From microbiological point of view, the product should be used immediately. If it is not used immediately, then the period and storage conditions of the product after the opening before the use are within the reliability of the user and in common case it should not be longer than 24 hours at 2-8 °C as far as the opening was not performed under the controlled and validated aseptic conditions.

6.4. Special precautions for storage

Protect from frost.

6.5. Nature and contents of container

Infusion glass bottle with a rubber stopper and a metallic closure, carton box.

Package size: 1x 80 ml, 1x 100 ml, 1x 250 ml, 1x 500 ml
20x 80 ml, 20x 100 ml, 10x 250 ml, 10x 500 ml

Not all package sizes may be marketed.

6.6. Special precautions for use, disposal and other handling

This medicinal product is dispensed entirely on the base of medical prescription.

It is usually administered by an infusion set into peripheral vein.

Parenteral products should be checked up visually before the use. The product must not be administered if visible solid particles are present or the package is not intact.

The preparation is intended only for a single use.

Any unused product or waste should be disposed of in accordance with local requirements.

7. MARKETING AUTHORISATION HOLDER

ARDEAPHARMA, a.s., Třeboňská 229, 373 63 Ševětín, Česká republika (Czech Republic)

8. MARKETING AUTHORISATION NUMBER(S)

76/927/95-C

9. DATE OF FIRST AUTHORISATION/RENEWAL OF THE AUTHORISATION

Date of the first authorization: 22nd November 1995
Date of the last renewal of the authorization: 19th October 2016

10. DATE OF REVISION OF THE TEXT

13th April 2018