

Human albumin 20%, Solution for infusion

1. Name of the medicinal product

Human albumin 20%, solution for infusion Taj Pharma

2. Qualitative and quantitative composition

Human albumin 20% is a solution containing 200g/l of total protein of which at least 96% is human albumin.

One vial of 50 ml contains 10g of human albumin.

One vial of 100 ml contains 20g of human albumin.

Human albumin 20% is hyperoncotic to normal plasma.

Excipient with known effect:

Human albumin 20% contains approximately 3.2mg sodium per ml of solution (140 mmol/l).

For the full list of excipients, see section 6.1.

3. Pharmaceutical form

Solution for infusion.

A clear, slightly viscous liquid; it is almost colourless, yellow, amber or green.

4. Clinical particulars

4.1 Therapeutic indications

Restoration and maintenance of circulating blood volume where volume deficiency has been demonstrated, and use of a colloid is appropriate.

The choice of albumin rather than artificial colloid will depend on the clinical situation of the individual patient, based on official recommendations.

4.2 Posology and method of administration

The concentration of the albumin preparation, dosage and the infusion rate should be adjusted to the patient's individual requirements.

Posology

The dose required depends on the size of the patient, the severity of trauma or illness and on continuing fluid and protein losses. Measures of adequacy of circulating volume and not plasma albumin levels should be used to determine the dose required.

If human albumin is to be administered, haemodynamic performance should be monitored regularly; this may include:

- arterial blood pressure and pulse rate
- central venous pressure
- pulmonary artery wedge pressure
- urine output
- electrolyte

- haematocrit / haemoglobin

Paediatric population

The posology in children and adolescents (0-18 years) should be adjusted to the patient's individual requirements.

Method of administration

Human albumin can be directly administered by the intravenous route, or it can also be diluted in an isotonic solution (e.g. 5% glucose or 0.9 % sodium chloride).

The infusion rate should be adjusted according to the individual circumstances and the indication.

In plasma exchange the infusion rate should be adjusted to the rate of removal.

4.3 Contraindications

Hypersensitivity to albumin preparations or to any of the excipients listed in section 6.1.

4.4 Special warnings and precautions for use

Suspicion of allergic or anaphylactic type reactions requires immediate discontinuation of the infusion. In case of shock, standard medical treatment for shock should be implemented.

Albumin should be used with caution in conditions where hypervolaemia and its consequences or haemodilution could

represent a special risk for the patient. Examples of such conditions are:

- decompensated cardiac insufficiency
- hypertension
- oesophageal varices
- pulmonary oedema
- haemorrhagic diathesis
- severe anaemia
- renal and post-renal anuria

The colloid-osmotic effect of human albumin 200g/l is approximately four times that of blood plasma. Therefore, when concentrated albumin is administered, care must be taken to assure adequate hydration of the patient. Patients should be monitored carefully to guard against circulatory overload and hyperhydration.

200–250g/l human albumin solutions are relatively low in electrolytes compared to the 40–50g/l human albumin solutions. When albumin is given, the electrolyte status of the patient should be monitored (see section 4.2) and appropriate steps taken to restore or maintain the electrolyte balance.

Albumin solutions must not be diluted with water for injections as this may cause haemolysis in recipients.

If comparatively large volumes are to be replaced, controls of coagulation and haematocrit are necessary. Care must be taken to ensure adequate substitution of other blood constituents (coagulation factors, electrolytes, platelets and erythrocytes).

Hypervolaemia may occur if the dosage and infusion rate are not adjusted to the patient's circulatory situation. At the first clinical signs of cardiovascular overload (headache, dyspnoea, jugular vein congestion), or increased blood pressure, raised venous pressure and pulmonary oedema, the infusion is to be stopped immediately.

Human albumin 20% contains approximately 3.2mg sodium per ml of solution (140 mmol/l).

That should be taken into consideration for patients on a controlled sodium diet.

Transmissible agents

Standard measures to prevent infections resulting from the use of medicinal products prepared from human blood or plasma include selection of donors, screening of individual donations and plasma pools for specific markers of infection and the inclusion of effective manufacturing steps for the inactivation/removal of viruses. Despite this, when medicinal products prepared from human blood or plasma are administered, the possibility of transmitting infective agents cannot be totally excluded. This also applies to unknown or emerging viruses and other pathogens. There are no reports of virus transmissions with albumin manufactured to European Pharmacopoeia specifications by established processes.

It is strongly recommended that every time that Human albumin 20% is administered to a patient, the name and batch number of the product are recorded in order to maintain a link between the patient and the batch of the product.

4.5 Interaction with other medicinal products and other forms of interaction

No specific interactions of human albumin with other medicinal products are known.

4.6 Fertility, pregnancy and lactation

Pregnancy

No animal reproduction studies have been conducted with Human albumin 20%.

Its safety for use in human pregnancy has not been established in controlled clinical trials and therefore it should only be given with caution to pregnant women. However, clinical experience with albumin suggests that no harmful effects on the course of pregnancy, or on the foetus and the neonate are to be expected.

Breast-feeding

It is unknown whether Human albumin 20% is excreted in human milk. Since human albumin is a normal constituent of human blood, treatment of the nursing mother with Human albumin 20% is not expected to present a risk to the breastfed newborn/infant.

Fertility

No animal reproduction studies have been conducted with Human albumin 20%. However, human albumin is a normal constituent of human blood and harmful effects on fertility are not expected.

4.7 Effects on ability to drive and use machines

No effects on the ability to drive and use machines have been observed.

4.8 Undesirable effects

Summary of the safety profile

Mild reactions with human albumin solutions such as flush, urticaria, fever and nausea occur rarely. These reactions normally disappear rapidly when the infusion rate is slowed down or the infusion is stopped. Very rarely, severe allergic reactions such as anaphylactic shock may occur. In these cases, the infusion should be stopped immediately and an appropriate treatment should be initiated.

Tabulated list of adverse reactions

The summary table below presents the adverse reactions which have been observed with Human albumin during the post-marketing phase, according to the MedDRA system organ classification (SOC and Preferred Term Level).

As the post-marketing reporting of adverse reactions is voluntary and from a population of uncertain size, it is not possible to reliably estimate the frequency of these reactions.

Hence the frequency category “not known (cannot be estimated from the available data)” is used.

MedDRA System Organ Class (SOC)	Adverse Reaction	Frequency
Immune system disorders	Hypersensitivity reactions (including anaphylaxis and shock)	Not known
Gastrointestinal disorders	Nausea	Not known
Skin and subcutaneous tissue disorders	Flush, urticaria	Not known
General disorders and administration site conditions	Fever	Not known

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.

For safety information with respect to transmissible agents, see section 4.4.

4.9 Overdose

Hypervolaemia may occur if the dosage and infusion rate are too high. At the first clinical signs of cardiovascular overload (headache, dyspnoea, jugular vein congestion) or increased blood pressure, raised central venous pressure and pulmonary oedema, the infusion should be stopped immediately and the patient's haemodynamic parameters carefully monitored.

5. Pharmacological properties

5.1 Pharmacodynamic properties

Pharmacotherapeutic group: plasma substitutes and plasma protein fractions,

Human albumin accounts quantitatively for more than half of the total protein in the plasma and represents about 10% of the protein synthesis activity of the liver.

Physico-chemical data: human albumin 200g/l has a corresponding hyperoncotic effect.

The most important physiological functions of albumin results from its contribution to oncotic pressure of the blood and transport function. Albumin stabilises circulating blood volume and is a carrier of hormones, enzymes, medicinal products and toxins.

5.2 Pharmacokinetic properties

Distribution

Under normal conditions, the total exchangeable albumin pool is 4–5g/kg body weight, of which 40–45% is present intravascularly and

55–60% in the extravascular space. Increased capillary permeability will alter albumin kinetics and abnormal distribution may occur in conditions such as severe burns or septic shock.

Elimination

Under normal conditions, the average half-life of albumin is about 19 days. The balance between synthesis and breakdown is normally achieved by feedback regulation. Elimination is predominantly intracellular and due to lysosome proteases.

In healthy subjects, less than 10% of infused albumin leaves the intravascular compartment during the first 2 hours following infusion. There is considerable individual variation in the effect on plasma volume. In some patients the plasma volume can remain increased for some hours. However, in critically ill patients, albumin can leak out of the vascular space in substantial amounts at an unpredictable rate.

5.3 Preclinical safety data

Human albumin is a normal constituent of human plasma and acts like physiological albumin.

In animals, single dose toxicity testing is of little relevance and does not permit the evaluation of toxic or lethal doses or of a dose-effect relationship.

Repeated dose toxicity testing is impracticable due to the development of antibodies to heterologous protein in animal models.

To date, human albumin has not been reported to be associated with embryo-foetal toxicity, oncogenic or mutagenic potential.

No signs of acute toxicity have been described in animal models.

6. Pharmaceutical particulars

6.1 List of excipients

Sodium N-acetyltryptophanate 16 mmol/l

Sodium caprylate 16 mmol/l

Sodium chloride q.s.to a sodium content of 140 mmol/l

Water for injections q.s. to 1 litre

6.2 Incompatibilities

Human albumin must not be mixed with other medicinal products, whole blood and packed red cells.

6.3 Shelf life

3 years.

6.4 Special precautions for storage

Do not store above 25 °C. Do not freeze. Keep the vial in the outer carton in order to protect from light.

6.5 Nature and contents of container

50 ml of solution in a single vial (glass type II) with a stopper (halogenated synthetic elastomer).

100 ml of solution in a single vial (glass type II) with a stopper (halogenated synthetic elastomer).

1 vial per pack (10g/50 ml, 20g/100 ml).

Not all pack sizes may be marketed.

6.6 Special precautions for disposal and other handling

The solution can be directly administered by the intravenous route, or it can also be diluted in an isotonic solution (e.g. 5% glucose or 0.9 % sodium chloride).

Albumin solutions must not be diluted with water for injections as this may cause haemolysis in recipients.

If large volumes are administered, the product should be warmed to room or body temperature before use.

Do not use solutions which are cloudy or have deposits. This may indicate that the protein is unstable or that the solution has become contaminated.

Once the vial has been opened, the contents should be used immediately.

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



7. Manufactured By:

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