selenase®
Organ Transplantation

Scientific information on

Organ Transplantation

Causes of ischaemia:

- Organ isolated from blood circulation

→ **no circulation**

Risks after reperfusion:

Damage to transplanted organ due to formation of ROS
e.g. in liver: damage to sinus endothelial cells,
activated Kupffer cells further produce ROS and induce inflammatory mediators → vicious circle that can lead to loss of the transplant

→ **reduced microcirculation**

Conventional measures to reduce tissue damage:

- Cooling of the organ
- Rapid transplantation (duration of ischaemia correlates with the extent of damage)

Data on antioxidants:

- Vitamin E (clinical study, liver resection) [Yagi et al. Transplant Proc. 1997; 29(1-2):1390-1393]

→ Reduction:
  - ROS (reduced protein and lipid peroxidation)
  - Activity of liver enzymes (ALT, AST, GLDH)

- Selenite (pig kidney):

→ Significant reduction:
  - Lipid peroxidation in venous blood in the kidney [Treska Transplantation Proceedings 2003; 35: 1584-1586]

Possible actions of selenium supplementation:

- Reduction of organ damage
- Prevention of loss of transplant

Suggested timing and dosage for selenium supplementation:

Time point	Dosage
Immediately after donation of the organ into the perfusion solution	200 µg Se/200 ml perfusion solution as selenase® solution for injection
Bolus dose before defined ischaemia or reperfusion into priming volume of heart-lung machine	1000 µg Se/d as selenase® solution for injection

Information sheet on ORGAN TRANSPLANTATION, biosyn Arzneimittel GmbH, RSi 2008. According to a lecture given by Dr med. E.-R. Kruse, Thieme Workshop 2008 entitled "The significance of selenium supplementation in the successful treatment of resuscitated patients".

selenase®

a chance for your intensive care patients

selenase® –

- protects from endothelial, organ and reperfusion damage
- modulates inflammatory and coagulation pathways
- is very well tolerated

Abbreviated Prescribing Information
selenase® 100 micrograms, solution for injection (50 micrograms/ml)
selenase® 500 micrograms, solution for injection (50 micrograms/ml)
Active ingredient: sodium selenite pentahydrate. **Composition:** Each 2 ml ampoule/10 ml injection vial contains 100 micrograms/500 micrograms selenium as 333 micrograms/1.66mg sodium selenite pentahydrate ($Na_2SeO_3 \times 5H_2O$), corresponding to 50 micrograms/ml. **Excipients:** Sodium chloride, hydrochloric acid, Water for Injections. **Indication:** Proven selenium deficiency that cannot be offset from food sources. **Posology and Administration:** selenase® solution for injection is administered as an intramuscular or intravenous injection at a daily dose of 100 – 200 µg (1.27 – 2.53 µmol) selenium. If necessary, this dose can be increased to 500 µg (6.33 µmol) for a typical adult. No dosage adjustment is required for paediatric, renal or hepatic impairment patients. **Contraindications:** Selenosis. **Interactions:** Ensure that the pH value does not fall below 7.0 and that the solution is not mixed with reducing substances (e.g. vitamin C). **Pregnancy and Lactation:** There are no data from the use of selenase® in pregnant or lactating women. **Undesirable Effects:** None known to date when used as directed. **Overdose:** Counter measures include gastric lavage, forced diuresis, dialysis or administration of high doses of vitamin C. **Pharmaceutical Precautions:** Store below 25°C. **Legal Category:** POM. **Presentation:** Cartons containing 10 x 2ml ampoules / 10 x10ml glass vials for single use. **MA Numbers:** PL 20437/0003, PL 20437/0004. **MA Holder:** biosyn Arzneimittel GmbH, Schorndorfer Str 32, D-70734 Fellbach, Germany. **Date of Preparation:** November 2004

selenase® corrects selenium deficiency

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We would be pleased to send you any further information.

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