

Pankreastransplantation

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Pancreastransplantation

Pancreastransplantation is nowadays the only curative treatment for **complicated insulin-dependent diabetes** to enable insulin independence and to improve diabetes complications as well as quality of life.

Indication for Pancreas transplantation

- **Diabetes mellitus Typ 1: Autoimmune disease in which pancreas stops producing the hormone insulin.**
- Inadequate glucose control by medical management alone
- Hypoglycemic unawareness and „brittle diabetes“, where extremely high or low blood glucose levels are precipitated by minor dietary modifications.
- Oft in Kombination mit einer Nierentransplantation durchgeführt, vor allem bei Patienten mit fortgeschrittener diabetischer Nephropathie, die die Nierentransplantation entweder beim gleichen Eingriff oder vorher oder nach der Pankreastransplantation bekommen.
- Patienten nach NTx und Diabetes mellitus Typ 1

Contra-indications:

- Absolute:
 - systemic sepsis
 - malignancy and significant medical co-morbidity
- Relative:

- Age (younger than 50)
- Severe cardiovascular morbidity
- Likelihood of noncompliance to therapy
- Insulin resistance

Abklärungen

- Klinische Untersuchung
 - o Lungen abhören, Ödeme
- Diabetische Folgeerkrankungen
 - o Retinopathie
 - o Neuropathie
 - o Polyneuropathie
- Herzkreislaufferkrankungen
 - o Koronarangiographie
- Nephrologisch-urologische Abklärungen
 - o Labor: Krea (Ausgangspunkt)
- Infektausschluss
 - o Wichtig bei geplanter Immunsuppression
- Immunologische Abklärungen und Gewebetypisierung
 - o Blutgruppe

- Psycho-soziale Situation
 - o Compliance

Operation - Pancreas transplant

- Intraperitoneal
- anastomosis of the donor arterial conduit on to the recipient common iliac artery
- donor portal vein onto the recipient inferior vena cava
- exocrine secretions are drained into the small bowel

Complications

- Vascular complications
 - acute thrombosis and postoperative hemorrhage
- Leaking of exocrine secretions
- Acute Rejection
- Chronisches Transplantversagen
- Komplikation der langzeitimmunsuppressiva
- Non-Compliance

Alternativen:

Transplantation von Inselzellen der Pankreas

Outcome and Challenges

- 1 Jahr Überlebensrate 95%
- 3 Jahresüberlebensrate 85-94%
- 5-year combined kidney-pancreas graft survival exceeds 70%
- islet cell transplantation
 - Implantation über die Pfortader in die Leber
- 7 consecutive patients who achieved insulin independence after islet transplantation
- 60 patients with 1 year insulin independence reported at 80%
- 1- and 10-year survival rate exceed 95% and 80%

References

1. M.Büchler et al.(2009) Intra-abdominal transplantation: Principles for the general surgeon. In: General Surgery: Principles and International Practice, Springer, Berlin, Vol. 2 pp: 1947-1960

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