Kidney Transplantation Guidelines

Living Donor

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Donor Nephrectomy (Living Donor), CPT Code: 00862

This protocol is intended as a guideline only and may need modification according to the patient's condition, surgical protocol, and clinical studies in progress. Please check with the attending transplant anesthesiologist.

General information
Patients presenting as a living donor for kidney transplantation are usually healthy, ASA I or II, with normal creatinine clearance. There is essentially no age restriction for being a living kidney donor. Preoperative assessment should be done as per standard workup for major surgery cases. Because a living donor kidney transplantation is a scheduled case, the patient should be nil-by-mouth since the night before surgery. Most living donor nephrectomies are performed as laparoscopic procedures, with only a minority as open procedures.
OR set-up
- General OR anesthesia cart
- Gold gel-foam pad on OR table

Standard intraoperative monitoring. Arterial line and CVP line are rarely indicated.
- EKG
- ETCO$_2$
- NIBP
- Pulse oximeter
- 5% Albumin 500 ml
- Frusemide, 100 mg, i.v.-solution
- Mannitol, 12.5 g, i.v.-solution
- 6% Hetastarch 500ml

Preoperative patient management in the holding area
As soon as the patient has arrived in the holding area give:
- 16 G peripheral venous access line
- Midazolam, 2 mg, i.v. to lower anxiety
- 6% Hetastarch, 500 ml to be given in holding area

Preoperative patient management in OR
General anesthesia is the anesthetic technique of choice, because the patient will be positioned in flexed lateral decubitus, with head slightly down, and kidney rest up. Though regional anesthesia is possible, the awake patient may be very uncomfortable when lying for hours in the required position for this operation. Which ever anesthetic technique is chosen, hypotension – even transient – should be avoided to prevent decrease in kidney perfusion!
- TED stockings and thromboguards on lower legs

After standard general induction of anesthesia:
- Foley catheter
- Oro-gastric tube
- Cefazolin, 2g, iv. IF > 120kg give 3g IV. For PCN allergy (hives/anaphylaxis) give levofloxacin 750mg iv. It takes antibiotics only 1 minute to be distributed throughout the blood circulation, but 30-60 minutes to diffuse to the skin! For hx of MRSA, give Vancomycin IV x 1 weight-based dose: 50-70kg=1g, 71-100kg=1.5g, >100kg=2g.
- 6% Hetastarch, 500 ml (altogether the patient should receive 6% Hetastarch 1000 ml (6% Hetastarch 500 ml in the holding area, and 6% Hetastarch 500 ml pre-operatively in the OR).
**Intraoperative patient management**

- General anesthesia can be provided as inhalation anesthesia (O<sub>2</sub>/Air/volatile agent or O<sub>2</sub>/volatile agent). No N<sub>2</sub>O to prevent inflation of intestines!

- The patient usually gets 3-4 liters of fluid i.v. to provide a urine output of > 5 ml/kg/hour. The surgeon will indicate when to give albumin, furosemide and mannitol.

- Once the donor kidney has been removed, continue to monitor urine output. However, there is no need to push for high urine output.

**Postoperative patient management**

After surgery has finished, the patient will be extubated and transferred to PACU.

Postoperative pain management is provided by PCA. Neither open nor laparoscopic donor nephrectomies will get an epidural!
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FLOW CHART

OR set-up
___ General OR anesthesia cart in OR
___ Gold gel-foam pad on OR table
___ EKG
___ NIBP
___ Pulse oximeter
___ ETCO₂
___ 5% Albumin 500 ml in OR
___ Frusemide, 100 mg, i.v.-solution in OR
___ Mannitol, 12.5 g, i.v.-solution in OR
___ 65 Hetastarch 500 ml in OR

Preoperative patient management in the holding area
___ 16 G peripheral venous access line established
___ Midazolam, 2 mg, i.v. given
___ 6% Hetastarch 500 ml given

Preoperative patient management in OR
Before induction of general anesthesia:
___ TED stockings and thromboguards put on lower legs
After standard induction of general anesthesia:
___ Foley catheter inserted and secured
___ Oro-gastric tube inserted
___ Cefazolin, 2000 mg, iv. IF > 120kg give 3g IV. For PCN allergy (hives/anaphylaxis) give levofloxacin 750mg iv. For hx of MRSA, give Vancomycin IV x 1 weight-based dose: 50-70kg=1g, 71-100kg=1.5g, >100kg=2g.
___ 6% Hetastarch 500 ml given