***PLEASE NOTE:*** *This trial has been registered retrospectively.*

## Trial Description

### Title

**Influence of high dose intraoperative remifentanil with or without amantadine on postoperative pain intensity and morphine consumption in major abdominal surgery patients**

### Trial Acronym

**[---]***

### URL of the trial

**[---]***

### Brief Summary in Lay Language

**In this study we investigated in patients undergoing lower abdominal surgery whether postoperative pain intensity and analgesic consumption will be increased following intraoperative high versus low dose remifentanil, and whether this will be prevented by preoperative i.v. administration of the NMDA antagonist amantadine.**

### Brief Summary in Scientific Language

**Human volunteer studies demonstrate ketamine-reversible opioid-induced hyperalgesia (OIHA), consistent with reports of increased postoperative pain and analgesic consumption. However, recent clinical trials show controversial results. This randomized controlled study investigated in lower abdominal surgery patients whether postoperative pain intensity and analgesic consumption are increased following intraoperative high (> 0,2 µg.kg-1.min-1) versus low (0,1 µg.kg-1.min-1) dose remifentanil, and whether this could be prevented by preoperative administration of the NMDA antagonist amantadine. Postoperative pain intensity and morphine consumption did not significantly differ between groups. Moreover, preoperative amantadine revealed no additional benefit. In conclusion, we were not able to demonstrate any influence on routine clinical outcome parameters of pain after high dose remifentanil. Although not without limitations, these findings are in line with other clinical trials that could not detect an opioid-induced impact on postoperative pain parameters which might be less sensitive to detect OIHA compared to quantitative sensory testing.**

## Organizational Data

- DRKS-ID: **DRKS00004626**
- Date of Registration in DRKS: **2013/04/30**
- Date of Registration in Partner Registry or other Primary Registry: **[---]***

DRKS-ID: **DRKS00004626**
Date of Registration in DRKS: **2013/04/30**
Date of Registration in Partner Registry or other Primary Registry: **[---]***

- Investigator Sponsored/Initiated Trial (IST/IIT): **yes**
- Ethics Approval/Approval of the Ethics Committee: **Approved**
- (leading) Ethics Committee Nr.: **196-10 , Ethik-Kommission der Charité - Universitätsmedizin Berlin-**

## Secondary IDs

## Health condition or Problem studied

- Free text: **Postoperative pain intensity and morphine consumption after elective lower abdominal surergy**

## Interventions/Observational Groups

- Arm 1: **“low dose remifentanil plus preoperative saline” (RL): a remifentanil infusion was maintained at a rate of 0,1 µg kg-1 min-1 throughout anaesthesia, whereas the endtidal Vol.-% of sevoflurane started at 0,5 MAC and was increased by 0,2 Vol.-% increments according to clinical demand; preoperatively 500ml NaCl 0,9% were infused as study solution**
- Arm 2: **“high dose remifentanil plus preoperative saline” (RH): the endtidal Vol.-% of sevoflurane was maintained at 0,5 MAC throughout anaesthesia; a remifentanil infusion was started at a rate of 0,2 µg kg-1 min-1 and subsequently increased by 0,05 µg kg-1 min-1 increments to clinical demand; preoperatively these patients also received an infusion of 500ml NaCl 0,9% as study solution**
- Arm 3: **“high dose remifentanil plus preoperative amantadine” (RHA): the same anaesthetic protocol as group RH, but the preoperative study solution was replaced with amantadine (200 mg/500 ml)**

## Characteristics

- Study Type: **Interventional**
- Study Type Non-Interventional: **[---]***
- Allocation: **Randomized controlled trial**
- Blinding: **[---]***
- Who is blinded: **patient/subject, investigator/therapist**

Study Type: **Interventional**

Study Type Non-Interventional: **[---]***

Allocation: **Randomized controlled trial**

Blinding: **[---]***

Who is blinded: **patient/subject, investigator/therapist**

- Control: **Placebo**
- Purpose: **Treatment**
- Assignment: **Parallel**
- Phase: **IV**
- Off-label use (Zulassungsüberschreitende Anwendung eines Arzneimittels): **Yes**

### Primary Outcome

**Postoperative pain intensity measured by numerical rating scale (NRS) in the 0./1./2./3./4./6. hour with PCIA**

### Secondary Outcome

**Postoperative morphine consumption measured in milligramm in the 0./1./2./3./4./6. hour with PCIA**

## Countries of recruitment

- DE **Germany**

## Locations of Recruitment

- University Medical Center **Klinik für Anästhesiologie, CBF, Berlin**

## Recruitment

- Planned/Actual: **Actual**
- (Anticipated or Actual) Date of First Enrollment: **2003/10/01**
- Target Sample Size: **60**
- Monocenter/Multicenter trial: **Monocenter trial**
- National/International: **National**

### Inclusion Criteria

- Gender: **Both, male and female**
- Minimum Age: **18 Years**
- Maximum Age: **no maximum age**

**Additional Inclusion Criteria**

**1) patients of at least 18 years; 2) American Society of Anaesthesiologists physical Status I – II; 3) open surgical procedures of the lower abdomen [(hemi-)colectomy, anterior rectum resection; abdominoperineal rectum resection; radical prostatectomy (RPX)] with an anticipated duration of anaesthesia of at least 90 minutes**

**Exclusion criteria**

**(1) were operated by laparoscopy; (2) had to be transfused with ≥ 2 units of packed red blood cells; (3) could not be extubated immediately after surgery; (4) had a chronic inflammatory disease, including inflammatory bowel disease; (5) had acute infection and/or SIRS/Sepsis; (6) had used opioids within 12 h before surgery4; (7) had a history of drug or alcohol abuse, psychiatric disorders or obesity (BMI > 30 kg/m2); (8) had contraindications to the self-administration of opioids (i.e., patients were unable to understand the patient-controlled intravenous analgesia [PCIA] device or had obstructive sleep apnea syndrome); (9) had contraindications to the use of amantadine (e.g., heart rhythm or conductance disturbance, renal insufficiency, epilepsy, delirium)**

## Addresses

- **Primary Sponsor**

  **Klinik für Anästhesiologie mit Schwerpunkt operative Intensivmedizin, Campus Charite Mitte und Virchow Klinikum, Charite - Universitätsmedizin Berlin**
  **Mr. Univ.-Prof. Dr. med. Michael Schäfer**
  **Augustenburger Platz 1**
  **13353 Berlin**
  **Germany**

  Telephone: **030450551102**
  Fax: **030450551909**
  E-mail: **micha.schaefer at charite.de**
  URL: **http://anaesthesieintensivmedizin.charite.de**

- **Contact for Scientific Queries**

  **Klinik für Anästhesiologie mit Schwerpunkt operative Intensivmedizin, Campus Charite MItte und Virchow Klinikum, Charite - Universitätsmedizin Berlin**
  **Mr. Univ.-Prof. Dr. med. Michael Schäfer**
  **Augustenburger 1**
  **13353 Berlin**
  **Germany**

  Telephone: **030450551102**

**Contact for Scientific Queries**

**Klinik für Anästhesiologie mit Schwerpunkt operative Intensivmedizin, Campus Charite MItte und Virchow Klinikum, Charite - Universitätsmedizin Berlin**
**Mr. Univ.-Prof. Dr. med. Michael Schäfer**
**Augustenburger 1**
**13353 Berlin**
**Germany**

Telephone: **030450551102**
Fax: **0304505519099**
E-mail: **micha.schaefer at charite.de**
URL: **http://anaesthesieintensivmedizin.charite.de**

■ **Contact for Public Queries**

**Klinik für Anästhesiologie mit Schwerpunkt operative Intensivmedizin, Campus Charite Mitte und Virchow Klinikum, Charite - Universitätsmedizin Berlin**
**Mr. Dr. med. Sascha Treskatsch**
**Chariteplatz 1**
**10117 Berlin**
**Germany**

Telephone: **030450531052**
Fax: **030450531952**
E-mail: **sascha.treskatsch at charite.de**
URL: **http://anaesthesieintensivmedizin.charite.de**

## Sources of Monetary or Material Support

■ **Institutional budget, no external funding (budget of sponsor/PI)**

**Klinik für Anästhesiologie mit Schwerpunkt operative Intensivmedizin, Campus Charite Mitte und Virchow Klinikum, Charite - Universitätsmedizin Berlin**
**Mr. Univ.-Prof. Dr. med. Michael Schäfer**
**Augustenburger Platz 1**
**13353 Berlin**
**Germany**

Telephone: **030450551102**
Fax: **030450551909**
E-mail: **micha.schaefer at charite.de**
URL: **http://anaesthesieintensivmedizin.charite.de**

## Status

■ Recruitment Status: **Recruiting complete, follow-up complete**

■ Study Closing (LPLV): **2007/04/30**

## Trial Publications, Results and other documents

- Abstract **Postoperative Pain Intensity Following High Dose Remifentanil with and without Amantadine**

** This entry means the parameter is not applicable or has not been set.*

**** This entry means that data is not displayed due to insufficient data privacy clearing.*