

± 21.6 - above 200 ml/hour. The highest value of sodium in the serum was 149 ± 3.4 mmol/l during treatment. The osmotic pressures: 287.45 ± 11.2 - 291.4 ± 12.4

Conclusion. The hypertonic saline adds a new dimension to volume replacement therapy in sepsis. The improvement in hemodynamics was effective and not only transient.

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DS15

PREEMPTIVE ANALGESIA – PREOPERATIVE DICLOFENAC NATRIUM FOR POSTOPERATIVE ANALGESIA IN GENERAL SURGERY

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Background. The goal of preemptive analgesia is to prevent the establishment of central sensitization¹. Some investigators have suggested that the preemptive administration of NSAIDs may reduce postoperative analgesic requirements and hypersensitivity^{2,3}. We evaluated the analgesic effect of administering Diclofenac UNO (150mg diclofenac natrium) before surgical incision on patients undergoing general surgery.

Materials and methods. Sixty patients were randomized into two equally sized groups. The first (Diclofenac) group received a single 150 mg dose of diclofenac natrium 1/2 h before surgery, the second (Placebo) group received a placebo before surgery. Postoperative pain was assessed using an 11-point verbal analog pain score (VAS), with 0 corresponding to 'no pain' and 10 to 'the worst imaginable pain'. The time to first opioid use, and 24-h analgesic use were recorded.

Results and Discussion. There was a significant difference between the two groups with respect to pain scores recorded at 0, 1, and 2 h postoperatively ($p < 0.05$). Analgesic duration, defined as the time from completion of surgery until the first opioid use, was significantly longer with those patients receiving diclofenac (122 min) versus placebo (63 min), ($p < 0.05$). The 24-h opioid use was less in the Diclofenac group (68.28mg) than the Placebo group (118.42mg).

Conclusion. In conclusion, Diclofenac UNO provides effective preemptive analgesia for general surgical procedures.

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DS16

SPINAL ANESTHESIA FOR CS IN PREECLAMPTIC PARTURIENTS

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Introduction. Aim of the study was to determine the cardiovascular stability and the use of ephedrine in healthy and preeclamptic patients.

Method. For Group A (preeclampsics) inclusion criteria were pregnant patients with diagnosis of preeclampsia or eclampsia on anti hypertensive therapy who were scheduled for elective cesarean section. Group B were healthy patients with repeated CS. For spinal anaesthesia Bupivacain 0.5%

hyperbar combined with 15 μ g Fentanyl was administered. A MAP decrease of more than 20% was corrected with ephedrine in titrated doses. HF below 75 b/min was corrected by 0,5mg atropine i.v.

Results. Table 1: Biometric data of the pregnant patients (expressed in mean \pm SD)

| Group | Preeclamptic P. | Healthy P. |
|---------------------------|-----------------|-----------------|
| n | 48 | 48 |
| BMI (kg m ⁻²) | 32,8 \pm 5,3 | 28,0 \pm 3,9 |
| Age (year) | 29,3 \pm 5,6 | 29,7 \pm 5,3 |
| Nulliparous | 35 | 0 |
| Multiparous | 13 | 48 |
| Diabetes mellitus | 3 | 0 |
| Gestation week | 35,3 \pm 2,06 | 38,2 \pm 0,64 |
| Fluid load (l) | 1,5 \pm 0,25 | 1,4 \pm 0,7 |
| Ephedrin (n) | 26 | 25 |
| Mg | 29,5 | 26,3 |
| Atropin 0,5 mg | 3 | 6 |
| MAP pre (mmHg) | 122,3 \pm 14 | 97,4 + 11 |
| MAP post (mmHg) | 103 + 20 | 86 + 12 |
| Map decrease in % | 16% | 13% |
| MAP uterotomy (mmHg) | 99 + 27 | 91 + 11 |
| Map decrease in % | 19% | 7% |
| MAP final (mmHg) | 102 + 14 | 89 + 7 |

MAP: Mean Arterial Pressure (oscillographic method); Pre: preoperative MAP, post: post induction MAP; map at uterotomy; final: MAP at skin closure

Conclusion. This study confirms the use of the same dose of Ephedrin in preeclamptic and healthy parturients. So we found SA a safe technique and can be recommended in preeclamptic patients.

DS17

PLEXUS ANESTHESIA AS COMPONENT OF INTENSIVE CARE OF PATIENTS WITH ELECTRIC BURNS OF UPPER EXTREMITIES

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Introduction: The electric injury is characterized by small burn surface but intensive pain syndrome, endogenous intoxication and secondary infectious complications. Opioids are widely used in burn surgery and intensive care, but their side effects (cardiorespiratory, gastrointestinal and immune depression) stimulate the search for alternative methods of analgesia. In this situation regional anesthesia may be most comfortable.

Goal of study. The investigation of the effectiveness of regional plexus anesthesia in intensive care of patients with electric burns of the upper extremities.

Materials and methods. The study was carried out in 12 victims (males, aged 34 ± 7.5 years) with electric burns of the upper extremities. Burn surface $5.5 \pm 1.36\%$ BS. Hospitalization was performed during the first 6 hours of the posttraumatic period. The intensive care included the analgesia, IV infusion of crystalloids, surgical treatment of the burned surface. The patients were divided to 2 representative groups. Group A (6 patients) had surgery with TVVA by fentanyl+ketamine, group B (6 patients) had brachial plexus anesthesia with 0.25% bupivacaine. Systolic BP, pulse (Ps) and arterial blood saturation (SaO₂) were measured during premedication (stage 1), after induction or performance of regional anesthesia (2), after half an hour of surgery (3), half an hour after surgery ended (4), and 3 hours after surgery (stage 5). All data was analysed by various statistical methods.

Results. Parameters of circulation are given in table.

| Stage | Group A | | | Group B | | |
|-------|-----------|-----------|------------------|-------------|------------|------------------|
| | Syst. BP | Ps | SaO ₂ | Syst. BP | Ps | SaO ₂ |
| 1 | 156.3±6.7 | 97.4±5.4 | 93.5±3.4 | 161.4±5.8 | 93.4±6.7 | 92.7±2.1 |
| 2 | 144.2±3.8 | 101.5±8.0 | 96.7±2.5 | 126.5±4.6** | 96.8±6.3* | 97.0±1.1 |
| 3 | 151.4±7.0 | 86.6±6.5 | 98.2±1.1 | 121.8±5.5** | 72.1±3.9** | 99.1±0.3 |
| 4 | 158.7±8.2 | 91.3±4.9 | 96.4±0.8 | 130.4±6.1** | 68.5±6.2** | 96.5±1.1 |
| 5 | 151.1±6.9 | 103.2±8.8 | 95.0±3.3 | 128.4±4.7** | 74.6±5.4** | 97.1±1.0 |

* - P<0.05 ** - P<0.005

Conclusion. Regional anesthesia can prevent blood pressure disturbances and pain syndrome during surgery in patients with electric burns of the upper extremities. The improvement of peripheral circulation makes this method of anesthesia a component of the intensive care process.

DS18

THE COST-EFFECTIVENESS OF DROTRECOCIN ALFA (ACTIVATED) FOR THE TREATMENT OF SEVERE SEPSIS IN AUSTRIA

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Background and Goal of Study. Drotrecogin alfa (activated) is an effective new therapy for patients with severe sepsis recently demonstrated in the PROWESS trial [1]. In Austria, the mean total direct ICU costs of (conventional) care were recently estimated at €28,600 [2]. The present study estimated the cost-effectiveness of the new therapy in addition to conventional therapy for patients with severe sepsis in Austria.

Materials and Methods. Our base case analysis combines data from the PROWESS trial with Austrian-specific unit costs. Total direct costs of care included days spent in ICU, duration of organ support, other hospital stay and new therapy costs. We used a price of €244 per 5mg vial for the new therapy based on the US price of \$210 used by Angus et al. [3]. Life expectancy of hospital survivors was based on Austrian life tables and the age-sex distributions of trial survivors. We also performed analyses from a) the European PROWESS patients only and b) directly from an Austrian cost study. We tested the results with a number of sensitivity analyses.

Results and Discussion. The reduction in hospital mortality in PROWESS at Day 28 was 6.0% (30.1% for placebo and 24.1% for the new therapy). The additional hospital survivors have a mean life expectancy of 18.5 years based on age and sex alone. Adjusting life expectancy due to comorbidity, ICU stay and severe sepsis, gives 9.4 years per additional survivor or a gain of 0.56 years per patient treated. The expected total costs of treatment are €30,100 for the new therapy and €21,500 standard care. This yields an incremental hospital cost per life year gained of €15,400. The modified analyses produced cost-effectiveness ratios of €15,900 and €14,900. Sensitivity analyses produced cost-effectiveness estimates within the published ranges for other life saving interventions.

Conclusion(s). From the standpoint of cost-effectiveness, treatment of severe sepsis with drotrecogin alfa (activated) is an economically viable treatment option in Austria.

Acknowledgements including financial support.

This study was supported by Eli Lilly Austria.

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DS19

REMIFENTANIL-PROPOFOL PROVIDES IMMOBILE VOCAL CORDS DURING LARYNGOSCOPIC SURGERY

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Background. The aim of the present study was to assess whether a combined technique using remifentanyl (remi) and propofol (prop) is equivalent to anaesthesia with succinylcholine-fentanyl-propofol (succ-fent-prop) in surgical procedures requiring immobility of the vocal cords.

Patients and methods. After approval by the Ethics Committee and obtaining written informed consent, 22 patients, ASA grades I and II, scheduled for short vocal cord surgery were enrolled in the study. After premedication with midazolam 0.1 mg/kg p.o. anaesthesia was induced with remi (5 µg/kg given over a period of 2 min) and prop 2.5 mg/kg. Surgery using direct laryngoscopy began at 1 min. Operating conditions were assessed by means of an intubation score¹. In addition RR_{syst}/diast, MAP and heart rate were recorded. Assuming that induction of anaesthesia with succ-fent-prop always provides very good intubating conditions, including optimal immobilisation of the vocal cords, this technique served as 'historical' control. The margin of equivalence was prospectively determined to be 20%.

Results. Twenty-one of the 22 patients (95.5%; 95%CI: 86.8%; 100%) showed 'excellent' intubating conditions and no response of the vocal cords to the surgical stimulus. In one patient intubating conditions were 'good' (vocal cords immobile and in intermediate position). Based on the prospectively determined 20% margin of equivalence treatment with remi-prop and succ-fent-prop is equivalent (p<0.05). In three patients (12.5%) heart rate and blood pressure dropped to levels that required therapeutic intervention.

Conclusion. Regarding vocal cord immobilisation in short surgical procedures with direct laryngoscopy the combination of remi (5 µg/kg given over a period of 2 min) and prop 2.5 mg/kg is an equivalent alternative to anaesthesia induced with succ-fent-prop.

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DS20

PRESSURE-VOLUME CURVE ANALYSIS IN PATIENTS WITH SEVERE HEAD TRAUMA AND ACUTE LUNG INJURY

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Background and goal of study. The level of positive end expiratory pressure (PEEP) setting in mechanically ventilated severe head injured (SHI) patients who developed acute lung injury (ALI) remains debatable (1). The assessment of P-V curves, in particular the lower inflection point in patients with ALI indicated the lung recruitment pressure, which is important to ascertain optimal PEEP levels (2).

Materials and methods. We performed daily measurement of pressure-volume (P-V) curves with constant low flow techniques (single breath with inspiratory flow 9 l/min, tidal volume 12 ml/kg) in SHI patients who fulfill criteria of ALI (Murray Injury Score >1) to investigate changes in lower inflection point (LIP). The level of PEEP, which is 2 cm over LIP (LIP measured in static or quasi static conditions), is generally considered as the 'best PEEP' (2). Measurement of P-V curves with constant flow 9 l/min leads to right shift of LIP by nearly 1 cm, that is why the 'best PEEP' is considered as LIP+1 cm (3). We compared the data of LIP+1 cm with PEEP levels setting, according to clinical criteria, in these patients.