liver failure may benefit from temporary extracorporeal liver support utilizing excretion and detoxification such as Molecular Adsorbent Recirculating System (MARS). In this study, the effects of MARS on haemostasis have been evaluated in patients with LF and marked coagulopathy.

Materials and methods. 11 MARS treatments in 5 patients with LF due to liver resection, sepsis, graft dysfunction after liver transplantation (n=2), and liver dysfunction in cystic fibrosis have been evaluated. Citrated whole blood was analysed using conventional cefte thromboelastography (TEG), heparinase-modified, and abciximab-fab-modified TEG. All measurements were performed immediately before start of MARS treatment (TP1), 30 min after start (TP2) and after MARS treatment (TP3). Patients were anticoagulated with prostacyclin and heparin to achieve an activating clotting time of 140-160s.

Results and discussion. We found a moderate decrease in reaction time (r) from TP1 (26±17 mm) to TP2 (19± 6 mm) in heparinase-modified TEG and decrease in platelet’s contribution to clot firmness in maximal amplitude (MA) from TP1 (20±12 mm) to TP2 (16±16 mm). Mean loss of platelets/MARS treatment was 17±24 G/l. The decrease in r and MA results from activation of clotting factors and consumption of platelets. However none of these changes reached statistical significance.

Conclusion. MARS causes activation of plasmatic and consumption of cellular coagulation. The extent of these effects were low and did not lead to bleeding or thrombosis in our group of patients. This may be due to the high biocompatibility of MARS membrane used.

Reference

AIC06

NO CENTRAL EFFECT OF ACETYLSALICYLC ACID ON HYPERALGESIA IN AN INFLAMMATORY SKIN PAIN MODEL

Depts. of Anaesthesia and General Intensive Care Medicine (B) and Neurorehabilitation, University of Vienna, Austria

Background and Goal of Study. Recently in an animal study the cycloxygenase 2 (COX 2) has been identified to play an important role for the development of hyperalgesia in the central nervous system [1]. For hyperalgesia in humans the central effect of COX 2 has not been studied. We therefore studied the systemic effect of the COX-inhibitor acetylsalicylic acid on hyperalgesia by use of an experimental model of separation of blood circulation.

Materials and Methods. After approval by the ethics committee, 16 healthy volunteers were enrolled in this randomized, placebo controlled, double blind, cross-over-study. In 2 different sessions a circular skin area (r=1.8 cm) on the forearm was irradiated with UVB-light to induce sunburn. 20 hours later heat pain tolerance thresholds (HPTT) were measured by means of a thermal sensory analyser (TSA 2001, Medoc, Israel) in the erythema at baseline and 20 minutes after application of a Tourniquet at the arm of sunburn. Immediately after start of the procedure, 1 g iv acetylsalicylic acid or saline was injected on the sunburn. 20 hours later heat pain tolerance thresholds (HPTT) were measured in the erythema and on the contralateral leg by means of a thermal sensory analysator.

Results and Discussion. We found a moderate decrease in reaction time (r) from TP1 (26±17 mm) to TP2 (19± 6 mm) in heparinase-modified TEG and decrease in platelet’s contribution to clot firmness in maximal amplitude (MA) from TP1 (20±12 mm) to TP2 (16±16 mm). Mean loss of platelets/MARS treatment was 17±24 G/l. The decrease in r and MA results from activation of clotting factors and consumption of platelets. However none of these changes reached statistical significance.

Conclusion. MARS causes activation of plasmatic and consumption of cellular coagulation. The extent of these effects were low and did not lead to bleeding or thrombosis in our group of patients. This may be due to the high biocompatibility of MARS membrane used.

Reference

AIC07

RANDOMIZED CONTROLLED TRIAL COMPARING COMBITUBE SA®, LARYNGEAL TUBE® AND PROSEAL® FOR VENTILATORY SUPPORT DURING LAPAROSCOPIC SURGERY

T. Hartmann, K. Hörnau, P. Faybik, V. Lorenz, P. Knafl
Dept. of Anaesthesia & Intensive Care Medicine, University of Vienna, A-1090 Vienna, Austria

Gynaecological laparoscopic procedures require increased abdominal pressures and steep Trendelenburg position in order to visualize the pelvic structures. This results in increased airway pressures and potential difficulties in ventilatory support, at least in obese patients. Therefore, tracheal intubation and placement of a gastric tube remains the gold standard for those procedures. We compared the suitability of Combitube SA®, laryngeal tube® and ProSeal® laryngeal mask as alternative airways for controlled mechanical ventilation during laparoscopic surgery.

Materials and Methods. After IRB approval 200 patients were recruited and randomly assigned to either tracheal intubation (TI, Macintosh #3 and 7.0mm I.D. ETT), Combitube 37Fr SA (ETC, Macintosh #3), laryngeal tube (LT, inserted blindly) or ProSeal® (PS, inserted blindly) (n=50 for all groups). Anaesthesia was induced using Propofol (2mg/kg), Fentanyl (2mcg/kg) and Rocuronium (0.3mg/kg), followed by Sevoflurane in N2O/O2. All patients received a gastric tube and potential air leaks were monitored by spectrometric assessment of operating room concentrations of Sevoflurane and N2O.

Results. Patients mean height and weight were 167±7cm and 63±12kg. Correct placement at first attempt was successful in 96% (groups TI, ETC and LT) and 94% (group PS, p=n.s.). Ventilatory support was sufficient during the entire procedure (mean duration 82±35min) in all patients assigned to groups TI and ETC and in 88% of group LT and PS patients. Complete sealing up to an airway pressure of 30cmH2O was observed in all group TI and ETC patients, in 84% of group PS and in 24% of group LT patients (p<0.05). No cases of aspiration of gastric contents or other complications were observed and the postop course was uneventful in all patients.

Conclusions. All airways tested with the exception of the laryngeal tube (sealing impaired by the gastric tube) are suitable devices for controlled mechanical ventilation during laparoscopic surgery.

AIC08

REMIFENTANIL ENHANCES ANALGESIA IN THE SUNBURN INFLAMMATORY SKIN PAIN MODEL

Depts. of Anaesthesia and General Intensive Care Medicine (B) and Neurorehabilitation, University of Vienna, Austria

Background and Goal of Study. Remifentanil increases dose-dependently the human heat pain threshold in normal skin [1]. Experimental hyperalgesia in rats is reversed by remifentanil [2]. It is not known, whether remifentanil excerts an enhanced analgesic effect on inflammatory skin pain compared to normal skin in humans. We therefore compared the analgesic effect of remifentanil in sunburn as an inflammatory skin pain model and normal skin.

Materials and Methods. After approval by the ethics committee, 16 healthy volunteers were enrolled in this randomized, active-placebo controlled, double blind, cross-over-study. In 2 different sessions a circular skin area (r=2.5 cm) on the forearm was irradiated with UVB-light to induce sunburn. 20 hours later heat pain tolerance thresholds (HPTT) were measured in the erythema and on the contralateral leg by means of a thermal sensory analyser.

References