1. Anaesthesia

Oral presentations

1. A prospective, randomised controlled study examining binaural beat audio and preoperative anxiety in patients undergoing general anaesthesia for day case surgery

A. George, R. Padmanabhan, P.O. Svanberg, A. Hildreth, D. Laws. Sunderland Royal Hospital, UK

Preoperative anxiety is common and often significant prior to surgery. Ambulatory surgery challenges our preoperative goal of an anxiety-free patient by requiring individuals to be 'street ready' within a brief period of time after surgery. Recently, it has been demonstrated that music can be successfully employed to relieve patient anxiety prior to surgical procedures [1], and that audio embedded with tones that create binaural beats within the brain of the listener reduces subjective anxiety levels in patients with chronic anxiety states [2]. We explored anxiety reduction in the preoperative setting according to State-Trait Anxiety Inventory questionnaire by comparing binaural beat audio (Group 1) with an identical soundtrack but without these added tones (Group 2), and against a third group, representing standard practice, who received no specific intervention (Group 3). Based on previous studies, a sample size of 34 in each group was required to detect a decrease of 20% in anxiety according to STAI-S scores to provide a power of 90% with a 0.05 two-sided significance level. Mean (±95%CI) reduction in anxiety scores were 26.3% (19.4-33.2) for Group 1 (n=35), compared to 11.1% (6.1-16.1) in Group 2 (n=34) and 3.8% (0.2-7.4) in Group 3 (n=35). Binaural beat audio significantly reduces acute pre-operative anxiety compared to either no intervention or audio alone.

References


2. Peri-operative fluids and PONV in patients undergoing day surgery: An audit report

B. Tandon, UK

Post-operative nausea and vomiting (PONV) is the predominant reason for unplanned admissions of day surgery patients. Prophylactic measures have proved difficult due to multifactoral aetiology of nausea and vomiting and universal prophylaxis is not cost effective. Pre-operative fasting sometimes inadvertently for undesirably longer periods results in dehydration and stress due to discomfort thus caused [1]. A number of studies have shown beneficial effects of peri-operative fluid therapy. Peri-operative fluid therapy reduces the incidence of PONV in patients undergoing ambulatory surgery. As a result early oral intake is possible thus improving post-operative recovery. A number of published controlled trials have recommended different regimes for peri-operative fluid therapy. 30 ml/kg better than 10 ml/kg in reducing PONV and anti-emetic medication [2]. Large infusions of 2 ml/kg of compound sodium lactate for every hour of fasting perioperatively [3].

An internal audit was done in our dedicated day surgery unit, results of which are presented.

References


3. Day care surgery in Hungary. Preoperative assessment

M. Janecska, K. Nagy. Semmelweis University Hospital, Budapest, Hungary

Introduction: the growth in day surgery has been rapid, but not all countries have seen the same level of development. The selection of suitable patients for suitable operations is the basis for the good surgical practice. The anaesthesia preassessment clinic for the preoperative evaluation recently been widely suggested. The day surgery in Hungary has been introduced in 2002.

Method: preoperative evaluation of patients schedule day case operations in our Hospital.

Risk classification (1032 patients) Co-existing diseases (391 patients = 38%)

| ASA I | 498 | Hypertension 122 |
| ASA II | 413 | CHD 61 |
| ASA III | 121 | Diabetes 35 |
| Others | 68 |

Discussion and Results: Hungarian Guideline for preoperative assessment before day surgery:

ASA I-II patients: medical history, physical examination, laboratory tests individually, ECG and X-ray if indicated.


Preoperative preparation needed: 82 patients.

Contraindication: 39 patients.


Summary: the majority of elective surgery will be performed on a day case basis. Patient selection is the cornerstone to successful day surgery.

References


4. Anesthesia Assisted Opiate Detoxification (AAOD) for heroin addicts during 24 hour hospital admission: complications of anaesthesia, and results for opiate abstinence at one year follow-up

C.J. De Jong. Kliniek de Lairesse, Amsterdam, the Netherlands

Aim:

1. To list addiction related health problems in a group of 67 patients addicted to heroin and/or methadone, who were treated with AAOD during 24 hour ICU admission.

2. To evaluate complications of AAOD on the day of treatment and during the first week after AAOD.
3. AAOD and naltrexone combined with CBT as provided by our
2. Complications of anaesthesia and detoxification (AAOD) were
3. The results for abstinence, employment, training and education,
2. Complications after AAOD: vomiting (more than 2× per day):
3. To evaluate the effect of our post AAOD treatment program, con-

The average length of opiate addiction in this group of 67 patients
Results:

1. The average length of opiate addiction in this group of 67 patients
2. Complications after AAOD: vomiting (more than 2× per day):
in 10 patients (15%), diarrhoea (more than 3× per day) in
3. The results for abstinence, employment, training and education,

Method:

1. The average length of opiate addiction in this group of 67 patients
2. Complications after AAOD: vomiting (more than 2× per day):
in 10 patients (15%), diarrhoea (more than 3× per day) in
3. The results for abstinence, employment, training and education,

RESULTS

1. The average length of opiate addiction in this group of 67 patients
2. Complications after AAOD: vomiting (more than 2× per day):
in 10 patients (15%), diarrhoea (more than 3× per day) in
3. The results for abstinence, employment, training and education,

Bioavailability of parecoxib


Comparison of intravenous parecoxib and ketorolac in the treatment of postoperative pain after outpatient varicose vein surgery


Background and Goal of Study

To evaluate the effect of our post AAOD treatment program, consisting of naltrexone combined with cognitive behavioural therapy (CBT) for one year after AAOD, on abstinence from opiates, employment, training and education, and criminal behaviour one year after the AAOD treatment.

Method:

A retrospective descriptive study of the files of patients who had an AAOD between 10–03–2000 to 10–03–2002. Data was analysed using the χ² test.

RESULTS

1. The average length of opiate addiction in this group of 67 patients
2. Complications after AAOD: vomiting (more than 2× per day):
in 10 patients (15%), diarrhoea (more than 3× per day) in
3. The results for abstinence, employment, training and education,

Bioavailability of parecoxib


Comparison of intravenous parecoxib and ketorolac in the treatment of postoperative pain after outpatient varicose vein surgery


Background and Goal of Study

To evaluate the effect of our post AAOD treatment program, consisting of naltrexone combined with cognitive behavioural therapy (CBT) for one year after AAOD, on abstinence from opiates, employment, training and education, and criminal behaviour one year after the AAOD treatment.

Method:

A retrospective descriptive study of the files of patients who had an AAOD between 10–03–2000 to 10–03–2002. Data was analysed using the χ² test.

RESULTS

1. The average length of opiate addiction in this group of 67 patients
2. Complications after AAOD: vomiting (more than 2× per day):
in 10 patients (15%), diarrhoea (more than 3× per day) in
3. The results for abstinence, employment, training and education,

Bioavailability of parecoxib


Comparison of intravenous parecoxib and ketorolac in the treatment of postoperative pain after outpatient varicose vein surgery


Background and Goal of Study

To evaluate the effect of our post AAOD treatment program, consisting of naltrexone combined with cognitive behavioural therapy (CBT) for one year after AAOD, on abstinence from opiates, employment, training and education, and criminal behaviour one year after the AAOD treatment.

Method:

A retrospective descriptive study of the files of patients who had an AAOD between 10–03–2000 to 10–03–2002. Data was analysed using the χ² test.

RESULTS

1. The average length of opiate addiction in this group of 67 patients
2. Complications after AAOD: vomiting (more than 2× per day):
in 10 patients (15%), diarrhoea (more than 3× per day) in
3. The results for abstinence, employment, training and education,

Bioavailability of parecoxib


Comparison of intravenous parecoxib and ketorolac in the treatment of postoperative pain after outpatient varicose vein surgery


Background and Goal of Study

To evaluate the effect of our post AAOD treatment program, consisting of naltrexone combined with cognitive behavioural therapy (CBT) for one year after AAOD, on abstinence from opiates, employment, training and education, and criminal behaviour one year after the AAOD treatment.

Method:

A retrospective descriptive study of the files of patients who had an AAOD between 10–03–2000 to 10–03–2002. Data was analysed using the χ² test.

RESULTS

1. The average length of opiate addiction in this group of 67 patients
2. Complications after AAOD: vomiting (more than 2× per day):
in 10 patients (15%), diarrhoea (more than 3× per day) in
3. The results for abstinence, employment, training and education,

Bioavailability of parecoxib


Comparison of intravenous parecoxib and ketorolac in the treatment of postoperative pain after outpatient varicose vein surgery


Background and Goal of Study

To evaluate the effect of our post AAOD treatment program, consisting of naltrexone combined with cognitive behavioural therapy (CBT) for one year after AAOD, on abstinence from opiates, employment, training and education, and criminal behaviour one year after the AAOD treatment.

Method:

A retrospective descriptive study of the files of patients who had an AAOD between 10–03–2000 to 10–03–2002. Data was analysed using the χ² test.

RESULTS

1. The average length of opiate addiction in this group of 67 patients
2. Complications after AAOD: vomiting (more than 2× per day):
in 10 patients (15%), diarrhoea (more than 3× per day) in
3. The results for abstinence, employment, training and education,
Minimally Invasive anesthesia (TM) technique for minimally invasive surgery

B. Friedberg. Corona del Mar, USA

Elective cosmetic surgery is, by definition, minimally invasive, because it does not invade the body cavities. Anesthesiologists need to consider improving outcomes (i.e. PONV & postop pain management), safety and patient satisfaction by adopting a minimally invasive anesthesia (MIA(TM) technique. The MIA(TM) technique is clonidine premedicated, BIS monitored, infusion pump titrated propofol for PK (MAC). The MIA(TM) technique consistently yields pre-emptive analgesia. Postoperative pain management begins with clonidine premedication, lowering the patient’s adrenergic state to baseline. Incrementally titrating propofol to BIS 70–75 prior to administration of 50 mg dissociative dose of ketamine eliminates the hallucinations, hypertension and tachycardia historically reported with ketamine. Measuring the level of propofol before administering ketamine makes this notorious agent predictable and extremely useful. The painful stimuli of the injection of local anesthesia do not reach the patient’s cortex. Ketamine provides a ‘midbrain spinal’ blocking the entry to the cortex of these noxious stimuli. The brain cannot respond to signals it does not receive. When BIS is 60–75 while patient movement occurs, the surgeon must be educated that more local analgesia is the most appropriate and effective therapy. The MIA(TM) technique scrupulously avoids emetogenic opioids, resulting in a 0.5% PONV rate without the use of antiemetics even in a high risk group (i.e. non-smoking females with histories of previous PONV having elective cosmetic surgery of 2+ hours). The extra attention the MIA(TM) technique requires during the surgery is returned many times over in increased patient throughput and rapid discharge of safe, happy patients who are eager to share their pleasant experiences with friends and family.

Video laparoscopic cholecystectomy in Day Surgery

R. Monzani1, F. Carrera1, S. Bona2. Gruppo di Studio SIAARTI per la Day Surgery. 1Servizio Anestesia U.O. Day Hospital Chirurgico, Instituto Clinico Humanitas, Rozzano (MI), Italy; 2U.O. Chirurgia Minimvasive, Istituto Clinico Humanitas, Rozzano (MI), Italy

We studied 168 patients, mean age 44 years. The inclusion criteria in the study were: scheduled surgery, patients ASA 1 and 2, ASA 3 only if the pre-existent pathology was compensated with adequate therapy and the surgery did not worsen the clinical status. On the day of the operation, the patient is pre-medicated with midazolam 0.07 mg/kg and atropine 0.007 mg/kg i.m. To prevent nausea and vomiting ondansetron 4 mg and ranitidine 50 mg i.v. are given. We performed a total intravenous general anesthesia. The induction is obtained by continuous infusion of remifentanil 2.5 µg/kg in 5 minutes, than a bolus of 2.5 mg/kg of propofol. After oro-tracheal intubation the anesthesia is maintained with a continuous infusion of remifentanil 0.25 µg/kg and propofol 2.5–3 mg/kg, cisatracurium 0.15 mg/kg is given at the start of the surgery. The IPPV is maintained with a continuous infusion of remifentanil 0.06–0.25 µg/kg and propofol 2.5–3 mg/kg. At the end of surgery, the patient is awakened and the intubation is removed. The patient is pre-medicated with midazolam 0.07 mg/kg and atropine 0.007 mg/kg i.m. In the recovery room the patient is controlled and all the vital parameters are monitored. If after 6 hours everything was with no complication, the patient was discharged with a modified Aldrete score. Of all the 168 patients, 79% was discharged in the same day of surgery and the 12% were excluded.

The duration of operation has been mean 80 minutes and the post-operative observation has been of mean of 7 hours and 15 minutes. 92.8% of the patients has been satisfied as a single day procedure.

Preoperative fasting and day surgery anesthesia: What are the recommendations?

K.H. Chin, J. Healy, S. Gwilym, J. Ellams, D. McWhinnie. Milton Keynes Hospital, UK

Background: Fluids and solids are traditionally denied from patients who are undergoing surgery (nil by mouth policy). Despite good evidence to suggest prolonged fasting prior to surgery has no benefit over more liberal regimens [1-3] many hospital units in the United Kingdom (UK) adhere to different fasting guidelines. In addition, there are no published national recommendations for good practice. In this study, the current practice of preoperative fasting in the UK is determined.

Methods: A structured questionnaire on preoperative fasting was sent to seventy Day Surgical Units (DSUs) throughout the country.

Results: Fifth eight questionnaires (83%) were returned. Eight questionnaires (11%) were inadequately completed and therefore excluded from this study. The median fasting period for fluids was 3±2.4 (2SDs) hours and for solids was 6±2.4 (2SDs) hours for adults prior to surgery. In children, the median preoperative fasting times were similar to those of adults (fluids: 2±2.8 [2SDs] hours and solids: 6±2.4 [2SDs] hours).

For local anaesthetic procedures, 72% of DSUs allowed both groups of patient to eat and drink as per usual, 16% recommends light diet but 12% still adhered to a strict fasting regime as per general anesthesia. Conclusion: There is no overall consensus for fasting times before anesthesia in the United Kingdom. Many adults may suffer the inconvenience of unnecessary fasting. Children are sensitive to prolonged fasting and hypoglycaemia can be an unexpected complication. Therefore, we urge our colleagues to adopt a more liberal preoperative fasting regime that is consistent with anaesthetic safety in both adults and children.

References


Comparison of hyperbaric lidocaine and mepivacaine in outpatient saphena stripping

M. Solca, C. Sibilla. Clinica S. Anna, Ferrara, Milano, Italy

Ideal spinal anesthesia for day surgery should combine fast and adequate level with rapid achievement of discharge criteria. These goals suggest the choice of selective spinal anesthesia with short or intermediate-acting local anesthetics (lidocaine or mepivacaine), in association with low dose of lipophylic opioids (fentanyl or sufentanil).

We compared low doses of intrathecal hyperbaric lidocaine and mepivacaine combined with sufentanil for outpatient varicose vein surgery, with respect to onset, spread, duration and regression of sensory and motor blockade and side effects (PDPH, TNS), and patients' satisfaction.

One hundred ASA I–III patients, 18 yr or older, scheduled for elective outpatient varicose vein surgery not to exceed 60 min, were randomised to receive 2.5 µg of sufentanil and 30 mg 1% hyperbaric spinal lidocaine or 2.5 µg of sufentanil and 30 mg 1% of mepivacaine.

Spinal injection was performed in the lateral decubitus position with the operative side down, using a midline approach at the L1–L2 interspace.

We recorded: incidence of failed anaesthesia, defined as patient discomfort that required conversion into general anaesthesia; incidence...
of pruritus, nausea and vomiting not related to hypotension; onset
time and duration of surgical anaesthesia, defined as T12 sensory
anaesthesia to pinprick; maximum upper spread of sensory block and
onset time at that level; frequency, onset time and duration of complete
motor block. Sensory loss of pinprick was tested using a sharp needle.
Sensory and motor block levels were assessed in the dependent side.
Home discharge time was assessed by standardized discharge scoring
criteria: vital signs within 20% preoperative value, absent or minimal
nausea and vomiting, minimal or moderate pain, ability to walk (as
defined by normal perianal sensation, plantar flexion of the foot and
proprioception in the great toe). All patients received postoperatively
oral ketoprofen 100 mg TID for 4 days or more since the end of surgical
anaesthesia; the dose was reduced to 50 mg in patients over 75
years of age.

Patients were interviewed six days after surgery on the incidence and
duration of: headache, sensory disturbances, nausea and vomiting,
difficulties in voiding, TNS (defined as pain or dysesthesia in one or
both buttocks or legs occurring within 24 h of surgery: isolated back
pain was not considered to be TNS and was recorded separately).

Pain was assessed using a verbal pain rating scale (0 = no pain, to
10 = worst pain imaginable).

Student's t-test and Chi² test were used: P < 0.05 was considered
statistically significant.

Demographic data were similar in the two groups. All patients
experienced adequate surgical anaesthesia intensity. Duration of
sensory block (78.3 ± 20 vs. 65.6 ± 18 min, P < 0.05) was significantly
longer with meperidine than lidocaine, as well as when motor block
(42.6 ± 13.5 vs. 39.4 ± 12 min, NS) and maximum cephalad spread
[5.5 (3) vs. 7.5 (2.8) dermatomes, median (range), NS], although not
significant. Home discharge time was also significantly longer with
meperidine (132 ± 32.8 vs. 114.8 ± 29.8 min, P < 0.05).

No one patient had postoperative urinary retention nor required
overnight admission. Pruritus was quite frequent (58 vs. 68%, NS), but
very few patients experienced nausea and vomit (1 vs. 4, NS) in both
groups. There were no complaints of PDPH at the follow up interview,
with backache (6% in both groups) and TNS (4% in both groups)
were limited and no difference was evident between treatment groups.

Pain was assessed using a verbal pain rating scale (0 = no pain, to
10 = worst pain imaginable).

Student's t-test and Chi² test were used: P < 0.05 was considered
statistically significant.

11 Thromboprophylaxis in day surgery – yes or no?

M. Achawal, K. Patil, E. Clements. Whips Cross University
Hospital, London, UK

Objective: Venous thromboembolism is a recognised complication of
surgery. Increasing numbers of patients are now being operated in a
day case setting. A non-fatual pulmonary embolism following day case
arthroscopic knee surgery prompted us to investigate current practice
of thromboprophylaxis in UK day surgery units.

Methods: A thorough literature search was carried out to design a
set of questions. We then conducted a telephone survey of randomly
selected day units.

Results: Seventy five day units responded to the survey. A need
for thromboprophylaxis was recognised by 44 (58.2%) centres while
21 (28%) did not think it was necessary. Ten (13.3%) did not use it.
Eleven (14.6%) units followed guidelines specific for the unit and
19 (25.3%) followed the same policy as the rest of the hospital. In
45 (60%) centres no guidelines were in use but 18 of these used
prophylaxis in day surgery. However there is no uniform consensus
about its use. Guidelines specific for day surgery should be established.
Conclusions: Results demonstrate that the anaesthetic technique with PCB associated with conscious sedation, without fentanyl, is an ideal approach for several gynaecological procedures in a day hospital.

14 Paediatric day-case tonsillectomy—improving clinical outcomes by continuous audit
G. Abbondati, Central Middlesex Hospital, London, UK
ACAD is the first purpose built elective theatre and diagnostic centre in the UK, opened in 1999. On the surgical side, we perform 8–14,000 day and short stay surgery (48 h max stay) operations per year, including laparoscopic cholecystectomies, TURPs and ACL repairs. All surgical activity is based on clinical protocols, which start with nurse-led pre-assessment through to nurse-led discharge. We have done paediatric day case tonsillectomies since opening, again using clinical protocols that gave us the possibility of continuously audit our results. We routinely call our patient at home postoperatively at 24 h, 7 days, and 30 days. This feedback enabled us to improve our clinical outcomes by:

- improving patient and parent education at pre-assessment, especially regarding pain on the 4th–5th postoperative day, and how to manage it
- improving postoperative pain by standardising the intrathecal analgesic regime, thus reducing recovery time to discharge to 4–5 h
- reducing the need for distressed children and parents to consult their GP or even visit their local A&E by giving them precise instructions to deal with common post-op problems.

Very close cooperation between surgical, anaesthetic, and especially dedicated paediatric nursing staff is essential to achieve any improvement.

Posters

15 Infusion of muscle relaxants superior to intermittent administration
H.R. Vinik, Callahan Eye Hospital, Birmingham, USA
Seventy (70) patients having elective eye surgery were randomized to receive either cisatracurium or rocuronium by infusion or intermittent boluses to maintain a 95% twitch depression (Train of four ¼).

Results: Infusion of muscle relaxants superior to intermittent administration. Infusions were superior for: TOF ¼ maintenance (75 vs. 50.5%), required intervention per hour, 1.6 vs. 2.9. Time to recovery (TOF 4/4), 4.1 vs. 5.1 min. Spontaneous respiration 5.9 vs. 6.7 min. Extubation time 8 vs. 9.8 min. Leave OR 11.1 vs. 13.7 min.

Conclusion: Infusion of intermediate duration muscle relaxants is clinically superior for maintenance and recovery compared to intermittent administration. Consequently recovery and discharge from ambulatory units would be facilitated.

16 Evaluation of anaesthesiologic and therapeutic plans in Day Surgery in Campania (Italy)
B. Lettieri, S. Sorrentino, N. Tenga, G. Pasto, E. Infuso. Napoli, Italy
Objectives: To evaluate the diagnostic and therapeutic plans in day-surgery: study of the clinical-organizational effects and of the anaesthesiologic plans in four differently organized hospitals of region Campania (Italy).

Methods and Materials: Multicentric regional study (March 2003–November 2004). 777 patients: 411 Males (44.7±14.8 years) and 360 Females (43.1±17.1 years) subject to day-surgery (abdominal, orthopaedic, vascular or obstetric–gynaecologic surgery).

The algorithm provided for three access; two steps in the preoperative phase and one in the postoperative. In the postoperative phase the discharge criteria of Joint Commission of Accreditation of Health Care have been evaluated. The degree of patients satisfaction has been evaluated by phone interviews with a standardized questionnaire.

Results: As for the degree of patients satisfaction, data analysis has shown that 75% of patients is completely satisfied or very satisfied. It has been considered a day-surgery failure the case of patients not discharged on the same day of operation for surgical or anaesthesiologic complications. The statistical analysis of data has shown a day-surgery failure in 48 cases out of 777 (6%). The causes have been: PONV (41%), blood loss (37%), duration of operation >2 hours (9%), the resting of sensory-motor block (7%), instability of vital signs (6%).

Conclusions: From our experience results that day-surgery in Campania is associated to a high degree of patients satisfaction and a very low percentage of complications and so of failure.

17 Evaluation of acute pain management following ambulatory surgery. Study of clinical practice in the north-east of France
E. Durand, C. Cornet, F. Empereur, T. O. University Hospital of Nancy, France
Introduction: Postoperative pain is often suboptimally managed following ambulatory surgery (Can J Anesth 2004; 51: 886–891). We objectively evaluated current clinical practice in 14 centres in order to detect any shortcomings pertaining to current guidelines (JCAHO; 2001).

Methods: Observational, surveillance study involving 14 centres, from October to November 2004: qualitative analysis of patient records and telephone interviews of all consented patients 7 days following ambulatory surgery.

Results and conclusion: 119 patients were included in this study. 50% had received information regarding postoperative pain preoperatively. Discharge summaries, inclusive of pain scores, were filed in 45% of records. A postoperative information leaflet, given to 87% of patients, included details of a contactable physician in only 23% of cases. Analgesics were prescribed for 60% of patients; NSAIDS being prescribed in only 14% of cases. Opioid rescue therapy was never prescribed. A discharge letter addressed to the General Practitioner (GP) was given to 45% of patients. 58% of patients experienced postoperative pain: 90% at home, especially during the first two postoperative days (37% on D0 and 40% on D1). 18% of patients resorted to antomedication and only 4% consulted their GP 7 days postoperatively, 1 in 3 patients still considered their daily activity level reduced by more than 40%. This study has identified a deficiency in the provision of patient information/education, under-prescribing of analgesics, and lack of communication with the GP.

18 LMA ProSeal in ambulatory laparoscopic gynecological surgery without myorelaxation
M.C. Soccorri, G. Falcone, G. Bettelli. AZ Ospedaliera Universitaria Policlinico di Modena, Italy
We studied 21 ASA I–II female patients, aged 31±5 (range: 21–40), with BMI of 24.2±4.1 (range: 18–31), scheduled for minor gynecological outpatient procedures (diagnostic and sterilization) with general anaesthesia and mechanical ventilation through LMA ProSeal (PLMA) size 4, and standard monitoring. Anaesthesia was induced by propofol 2.5 mg.kg⁻¹ and fentanyl 2.7 μg.kg⁻¹, and then maintained by propofol 6 mg.kg⁻¹ and sevoflurane 0.5 MAC; no muscle relaxants were administered. After pre-oxygenation without manual ventilation to avoid gastric distension, PLMA was inserted and then cuffed, initially with 20 ml of air, and then with the
needed amount of air to obtain absence of leaking at an initial tidal volume (VT) of 10 mL·kg⁻¹. Mechanical ventilation was delivered at a respiratory rate of 15 breaths/min; VT was increased when the end-tidal carbon dioxide pressure (ETCO₂) exceeded 40 mmHg, whereas respiratory rate was reduced when ETCO₂ decreased below 30 mmHg. Abdominal distension was obtained in two steps, the first at 1.33/min until maximum 15 mmHg pressure was reached, and the second to maintain this value. Supplemental boluses of propofol (50 mg) were administered when heart rate or systolic blood pressure values increased more than 10% of the basal value, or when spontaneous movements appeared. Airways peak pressure was measured at the following steps: T1 (shortly after PLMA insertion), T2 (end of the first step), T3 (5 minutes after tilting pts in Trendelenburg position when requested by surgeons). The number and duration of episodes of leaking, the additional propofol boluses administered and the corresponding SatHbO₂ and ETCO₂ values were registered. The mean airways peak pressure increment following abdominal distension was 7.9±4.2 cmH₂O. The mean increment following Trendelenburg position was 6±2.8 cmH₂O. In 11 pts, a leaking was audible at the moment of maximal abdominal distension, lasting 5±2 min (range: 1-10), in 7 of them because of insufficient anaesthesia promptly corrected by propofol bolus administration. No variations in SatHbO₂ and ETCO₂ were observed. No correlation was found between the BMI and peak airways pressure values.

19 Outpatient anterior cruciate ligament reconstruction: a review of 532 patients
G. Armellin. Azienda Ospedaliera Padova, Italy

All outpatient anterior cruciate ligament (ACL) reconstructions performed at our Free Standing Ambulatory Surgery Centre between 2001 and 2004 were retrospectively studied. 532 patients (pts) were analyzed. 471 (88.5%) pts underwent general anaesthesia (GA) and 61 (11.5%) were submitted to spinal anaesthesia (SA). All the pts in the GA group received ketorolac 60 mg and dexamethasone 4 mg before surgery for preemptive analgesia, postoperative nausea and vomiting (PONV) prophylaxis. Anaesthesia consisted of weight-related doses of propofol, remifentanil and sufentanil or fentanyl. Pts were ventilated by a laryngeal mask. In the SA group we used 0.5% hyperbaric bupivacaine 7–8 mg. At the end of the operation all pts received 0.5% ropivacaine 20 ml and clonidine 1 μg·kg⁻¹ into the knee joint. Demographic and operative data are showed in table 1. There were two unplanned admissions: one for bleeding and another for recurrent syncopal episodes. Two other pts were readmitted for knee infection. Postoperatively all pts were submitted to cryotherapy and received paracetamol 1000 mg and ketoprofen 200 mg per os. 47 pts (8.8%) needed a rescue drug for pain (ketorolac or sufentanil). 27 pts (5%) complained vasovagal episodes: they were given atropine and saline for rehydration. PONV was present in 16 pts (3%). Nobody was admitted for intractable pain or PONV. Although ACL repair is a painful procedure, nearly all pts were rapidly discharged and complications rate was very low. This procedure can be performed safely and effectively in a day surgery setting.

Table 1: Demographics and operative data

<table>
<thead>
<tr>
<th>Variable</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male/female</td>
<td>396/136</td>
</tr>
<tr>
<td>Age (years)</td>
<td>31.8 (17–49)</td>
</tr>
<tr>
<td>Weight (kg)</td>
<td>73.3 (40–113)</td>
</tr>
<tr>
<td>Height (cm)</td>
<td>174.7 (152–202)</td>
</tr>
<tr>
<td>Operation time (min)</td>
<td>46 (18–151)</td>
</tr>
<tr>
<td>General Anaesthesia (%)</td>
<td>471</td>
</tr>
<tr>
<td>Spinal Anaesthesia (%)</td>
<td>61</td>
</tr>
<tr>
<td>Time to discharge (min)</td>
<td>237 (64–525)</td>
</tr>
</tbody>
</table>

Data are expressed as mean (range) or number.

19 Nocturnal episodic hypoxemia after ambulatory breast cancer surgery
G. Shirakami, K. Fukuda. Department of Anesthesia, Kyoto University Hospital, Kyoto, Japan

Purpose: To study the incidence of nocturnal episodic hypoxemia after ambulatory breast cancer surgery and its difference between sevoflurane and propofol anesthesia.

Methods: Sixty-one adult female patients (ASA PS I–II, age 32–77 yr) without an apparent history of sleep apnea and a respiratory disease undergoing major breast cancer surgery at outpatient basis and planned overnight admission were randomized to one of two anaesthesia maintenance groups: sevoflurane (S, n = 31), or IV propofol, fentanyl and vecuronium (P, n = 30). All patients were administered with propofol 2 mg·kg⁻¹ IV for anaesthesia induction, laryngeal mask airway placed for airway maintenance, and received rectal dicrofenac and local infiltration anesthesia for pain relief. No opioid analgesic and oxygen were administered after discharge from postanaesthesia care unit. Oxygen saturation (SpO₂) was recorded continuously during the first postoperative night. SpO₂ <90% lasting at least 10 s were regarded hypoxemia and percentage of recording time with SpO₂ <90% (%Time SpO₂ <90) were evaluated.

Results: Six patients (S3, P3) had >1% of %Time SpO₂ <90 (L-Hypoxia group), 23 (S11, P12) had >0 and <1% (S-Hypoxia group), and 32 (S17, P15) had 0% (No-Hypoxia group). There were no difference in age, height, ASA-PS, duration of anesthesia, and times to first drinking, ambulation and voiding after surgery among the three groups. L-Hypoxia group had higher body mass index (BMI, 26±4 kg·m⁻²) than no-Hypoxia group (21±3). No patient developed major complications.

Conclusion: Nocturnal episodic hypoxemia after ambulatory breast cancer surgery was not rare. The incidence of hypoxemia was not different between sevoflurane and propofol anesthesia. Hypoxemic patients had higher BMI.

21 TIVA in day-surgery
R. Rago, L. Bianchi, L. Lombardi, A. Paolisch, F. Giunta. Hospital S. Chiara, Pisa, Italy

Background: The aim of Day-surgery Units is a short term in hospital stay, thus limiting patient discomfort and reducing costs. Its main drawback is the limited time of direct observation of the patient. So it's imperative that the anaesthesiological and surgical procedures be safe and effective. In our Day-surgery Unit the majority of operations is performed under general anaesthesia (thoracotomy, parathyroidectomy, laparoscopic cholecystectomy and major breast surgery). In this study we evaluated the role of TIVA for general anaesthesia procedures performed in Day-surgery.

Materials and Methods: We analysed retrospectively data from 4759 patients exposed to TIVA for day-surgery procedures. Data were prospectively collected by structured interview sheets, including subjective intraoperative and postoperative events, both before discharge and after 3 weeks.

Results:
- Haemodynamic values
  - Preoperative medium arterial pressure: 101±±2.1
  - Intraoperative medium arterial pressure: 83±±3.5
1. Anaesthesia

- Preoperative medium heart rate: 83.5 ± 2.1
- Intraoperative medium heart rate 72.1 ± 5.0
- Neither phenomena of awareness nor post-traumatic stress syndrome have been recorded
- PONV value after awakening: 9% of patients
- Index of hospitalisation (re-admission or prolonged hospitalisation): 0.73%
- 97% of patients declared they would submit again to same anaesthesiological procedures.

Conclusions: TIVA is a suitable anaesthesiological procedures for general anaesthesia operations performed during a short hospital stay. Its main features include:
- fast induction without important neurovegetative responses
- intraoperative haemodynamic stability
- rapid awakening without collateral effects
According to our experience, TIVA in day-surgery guarantees the safety of patients and allows a short hospitalisation.

22 Parathyroidectomy in day-surgery: general or locoregional anaesthesia?

R. Rago, L. Bianchi, L. Lombardi, A. Paolicchi, F. Gianta. Hospital & Chiara, Pisa, Italy

Background: The optimal anaesthesiological technique in day-surgery would have to supply excellent operating conditions, fast discharge, low complications rate and high degree patients' satisfaction. We estimated which anaesthesiological technique, general or locoregional, is best suitable for day-surgery patients undergoing minimal access, video-assisted parathyroidectomy.

Patients and Methods: This is a prospective randomized study performed in a tertiary referral hospital (Dept. of Surgery, University of Pisa). Inclusion criteria: patients with primary hyperparathyroidism undergoing their first operation, with presumptive diagnosis of single gland disease. All patients gave informed consent to enter the study. Patients were randomized to receive bilateral deep cervical block, executed according to modified Lo Gerfo-Diktoff technique (L group) or general anaesthesia by total intravenous anaesthesia (G group). Randomization was done with closed envelopes as patients entered the operating theatre. Main outcome measures: intraoperative pain and comfort, collateral effects, drug consumption and patients' satisfaction.

Results: Forty patients were enrolled in the study (twenty in the L group, twenty in the G group).

Intraoperative pain and comfort: the visual analogic score values ranged between 0 and 1 and the comfort was good-optimal. Collateral effects: L group: two headache (10%) and one decubitus pain (5%). G group: six headache (30%), six decubitus pain (30%), two shiver (10%) and two nausea cases (10%).

Drugs consumption: L group: the ketorolac medium dose consumption resulted 25 mg/24 h. G group: 67.1 mg/24 h (p < 0.0001). Moreover, in this group morphine medium consumption was 5 mg/24 h. L group patients did not require rescue drugs.

Patients' satisfaction (subjective graduated score): L group: very satisfied; G group: satisfied.

Conclusions: Both general and locoregional anaesthesia are effective and reliable techniques for day surgery patients undergoing minimally invasive video-assisted parathyroidectomy. However the locoregional anaesthesia scored better results as regards: collateral effects, consumption of analgesic and other rescue drugs, patients' satisfaction.

23 A table of anaesthetic and surgical interactions with herbal remedies

C. Davies. William Harvey Hospital, Ashford, Kent, UK

The prevalence of ingestion of herbal remedies across the world is high. In 1996 over 5000 adverse reactions were reported to the World Health Organisation. Ingredients of herbal medicines vary enormously from maker to maker. Patients think of them as supplements not medication so fail to disclose them even when asked. These remedies may interact with anaesthetic agents or cause problems during the peri-operative period.

We propose to present a poster in form of a table that could be used for quick references for the more commonly used herbal remedies. For each drug, the pharmacological effects, anaesthetic and or surgical peri-operative interactions and time for discontinuation before surgery are stated. An example is shown below.

<table>
<thead>
<tr>
<th>DRUG</th>
<th>PHARMACOLOGICAL EFFECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ephedra (ma huang)</td>
<td>SLIMMING AID. INCREASES HEART RATE AND BLOOD PRESSURE.</td>
</tr>
</tbody>
</table>

24 Intravenous midazolam combined with fentanyl and propofol for anesthesia during ultrasound-guided transvaginal oocyte retrieval

M.C. Pace, A. Palagiano, M.B. Passavanti, C. Cammarano, D. Romano, C. Aurilio. Second University of Naples, Italia

The aim of this study was to evaluate the efficacy of midazolam with fentanyl, propofol and Pancuronium Block (PCB) for ultrasound-guided transvaginal oocyte retrieval.

Methods: 50 women age 26–40 years, ASA I–II, scheduled for oocyte retrieval with ultrasound guidance, were randomized in two groups to receive anesthesia with either iv propofol 1.5–2 mg/kg (Group P, n = 25) or the combination of midazolam 0.05 mg/kg and propofol 1 mg/kg in 2 administrations (first administration before oocyte retrieval, second administration at the time of the oocyte retrieval from the second ovary). Both groups were premedicated with fentanyl 0.1 mg, betamethasone 4 mg and atropine 0.01 mg/kg intravenously, followed by PCB with mecpivacaine 2% 10 ml (5 ml

References

I. Anaesthesia

We monitored HR, RR, NIBP, SpO2 during the surgery. Furthermore we recorded administration of analgesics in postoperative time, side effects, time of discharge and satisfaction rating (unsatisfied–satisfied–very satisfied). In addition pain intensity was evaluated using VAS (0–10) at the end of the surgery, 2 hours later and at discharge. Statistical analysis was performed using SPSS version 12.0 for Windows.

Results: Oocyte retrieval was successful in both groups. The monitored parameters did not show any significant variation. VAS values, side effects and administration of analgesic drugs in postoperative period were not significantly different in both groups. On the contrary the time of discharge was shorter (3–4 h vs. 6–7 h) and the patients' satisfaction was statistically better in group MP.

Conclusion: Sedation with midazolam combined with propofol, during oocyte retrieval, reduces the dosage of propofol and the time of discharge from hospital and results in a better patients' satisfaction.

25 The prophylactic antiemetic efficacy of betamethasone vs droperidol in gynaecological day-surgery

M.B. Passavanti, M.C. Pace, L. Pace, P. Sansone, C. Canmarano, A. Palagiano. Second University of Naples, Italy

The aim of this study was to compare the antiemetic effect of betamethasone and droperidol administered in premedication in patients undergoing diagnostic laparoscopy.

Materials and Methods: After informed consent 72 patients, aged 18–30, ASA I–II, were recruited in this study. All patients received TIVA with atropine, fentanyl, propofol and rocuronium. In premedication patients received either iv betamethasone 4mg (Group B, n = 38) or droperidol 1 mg (Group D, n = 34). Postoperative Nausea and vomiting (PONV) on a 3-point scale (0 = none, 1 = nausea, 2 = vomiting) and the administration of additional doses of antiemetic drugs were evaluated during 8 h postoperatively.

Results: There were no significant differences between group B and group D with respect to surgical time, anesthetic doses and side effects. The incidence of PONV during the first postoperative period (0–4 h) was comparable in both groups (2% group B vs 3% group D), but late emetic episodes (4–8 h) were significantly different in both groups (12% group B vs 23% group D). The administration of additional doses too shows the same results (2% group B vs 10% group D).

Conclusion: The administration of betamethasone in premedication reduces both the early episodes of PONV and the incidence of late PONV (4–8 h) that means lower administration of additional doses of antiemetic drugs during 8 h postoperative period.