ELSEVIER

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Ambulatory Surgery

Literature review
Selected abstracts from the current literature[1]

Ambulatory phlebectomy of the foot: review of 75 patients

JA Olivencia

Dermatol Surg 1997;23(4):279–80

BACKGROUND: Review of 75 patients on whom ambulatory phlebectomy of the foot was performed as part of their varicose vein treatment. *Objective*. To demonstrate that ambulatory phlebectomy is an effective modality of treatment for varicosities of the foot.
METHODS: Ambulatory phlebectomies were performed on an outpatient basis under local anesthesia.
RESULTS: The overall satisfactory result of ambulatory phlebectomy of the foot employed in the 75 patients in this study revealed the procedure to be very effective with few complications resulting and with a high degree of patient satisfaction.
CONCLUSIONS: Ambulatory phlebectomy of the foot has proven to be a most satisfactory procedure for the treatment of varicose veins of the foot.

Neurolysis for ulnar nerve compression syndrome: a surgical technique for outpatients

JES Jambeiro, MAM Matos, FR Sant'Ana, AA Leite, A Barbosa, JF Jambeiro

Rev Bras Ortoped 1997;32(3):236–8

The authors present a simplified surgical technique for the treatment of ulnar compressive syndrome by using local anesthesia without ischemia in the neurolysis of the nerve. This procedure represents a new perspective as an outpatient surgery in the massive therapy of the handicapped, especially in Hansen's disease.

Reversal of tubal sterilization using laparoscopically placed titanium staples: preliminary experience

L Stadtmauer, MV Sauer

Hum Reprod 1997;12(4):647–9

We tested the feasibility of performing outpatient laparoscopic surgery to reverse tubal sterilization using titanium staples to reapproximate the oviducts. A total of 14 women underwent the procedure which involved excision of the tubal eschar, stenting of the severed remnants, and circumferential stapling of the muscularis and serosa. Reapproximation was possible in all cases, with a measured tubal length post-anastomosis of 4.5 ± 0.5 cm (range 3.0–7.0 cm). The length of operating time was 2.8 ± 0.2 h (range 2.2–3.8 h), and all patients were discharged the same day. There were no operative complications, and no readmissions were necessary. Within 6 months of surgery, there were six pregnancies including one spontaneous abortion and five ongoing pregnancies. Of those not conceiving within 8 months, seven (100%) demonstrated tubal patency on a follow-up hysterosalpingogram. We conclude the laparoscopic approach to tubal sterilization reversal is a viable alternative to open abdominal microsurgical approaches. Although preliminary, laparoscopic surgery promises to be cost effective, as it can be performed on an outpatient basis, may reduce operative time and minimizes the recuperative period of patients.

Acetaminophen or ketorolac for post myringotomy pain in children? A prospective, double-blinded comparison

JD Bean-Lijewski, JC Stinson

Paediatr Anaesth 1997;7(2):131–7

Myringotomy with tube placement (BMT) is the most frequent surgical procedure performed in children. The purpose of this prospective, double- blinded study was to determine if 15 mg. kg^{-1} of acetaminophen (paracetamol) provides analgesia similar to that provided by ketorolac, 1 mg. kg^{-1}, at a lower cost. A total of 132 children, aged 6 months to 9 years, scheduled for elective BMT were randomized to receive oral acetaminophen or ketorolac 30 min preoperatively. An Objective Pain Scale score was assessed upon arrival to the PACU and at 5, 10 and 20 min. Time of awakening, time of PACU and day surgery discharge and incidence of vomiting were recorded. Groups were comparable in demographics, side effects and time to discharge. Median pain scores were lower in the ketorolac group at five and ten min but no differences were seen at discharge nor in postdischarge analgesic requirements. Is 10 min of better analgesia worth the cost of ketorolac? We conclude that the slight analgesic benefit from ketorolac does not justify its cost in this setting.

[1] No responsibility is assumed by the Publisher for any injury and/or damage to persons or property as a matter of products liability, negligence or otherwise, or from any use or operation of any methods, products, instructions or ideas contained in the material herein. Because of rapid advances in the medical sciences, we recommend that independent verification of diagnoses and drug dosages should be made.

PII S0966-6532(98)00022-5

Parental perceptions, expectations and preferences for the postanaesthetic recovery of children

N Sikich, AS Carr, J Lerman

Paediatr Anaesth 1997;7(2):139–42

Improvements in anaesthesia have led to the introduction of rapid-acting agents which quicken recovery and decrease sleepiness. Whether parents believe a rapid postanaesthetic recovery is an advantage is unknown. Therefore, we evaluated the parental perceptions, expectations and preferences for the postanaesthetic recovery of children. Parents (103) of children having ambulatory surgery completed a structured questionnaire and the results of 101 are presented. Results indicate that 93% of parents expect their child to be sleepy after surgery. Of the parents, 74% indicated they would prefer their child to be sleepy or tired in the first 24 h postoperatively while 85% of parents would not be upset if their child's discharge was delayed up to 3 h because their child was too sleepy. Finally, 45.5% of parents are extremely concerned about their child experiencing postoperative pain and 68% believe that their child would be in more pain if they recovered rapidly from the anaesthetic. These results indicate that rapid recovery from anaesthesia and quick discharge from hospital are not key expectations of parents of children admitted for day surgery. Parents associate a rapid recovery with more pain. Parents need to be more fully informed of the advantages of a rapid recovery and reassured that children can recover quickly and completely but at the same time be comfortable postanaesthetic.

Pain and activity disturbance after paediatric day case adenoidectomy

H Kokki, R Ahonen

Paediatr Anaesth 1997;7(3):227–31

Over the past two decades outpatient surgery has become standard practice in paediatric surgery. Adenoidectomy is a common surgical procedure in children. In this prospective survey pain and pain-related outcomes such as sleep and activity disturbance were evaluated in 167 children aged 1–7 years who had undergone adenoidectomy as a day case in Kuopio University Hospital. The survey questionnaire consisted of 76 structured questions about pain, pain medication, adverse effects and daily activities during the first week after the operation. Of children, 83% had pain at home and 17% of them had moderate or severe pain on a four point verbal rating scale. Children (80%) used pain medication at home. Pain medication did not cause any major adverse effects. Over 90% of children were back to normal daily activities during the first three postoperative days and nearly all were able to drink during the whole postoperative period. We conclude that pain is a common problem after adenoidectomy in children but most of the children return to normal activities within 3 days.

Traumatology and day care surgery: lesional and therapeutic features at Yopougon university hospital

G Varango, I Bamba, M Kodo, Y Lambin

Urgences Med 1997;16(2):85–88

The authors report results from a retrospective study carried out over a 3-year period about 3785 patients (mean age: 41.5 ± 17.34 years) managed in a short stay basis. The procedures concerned mainly musculocutaneous (64.9%) and osteo-articular lesions (31.6%). ASA method and/or paraclinical investigations authorized general anaesthesia in 60% of cases with mean duration of 29.73 ± 13.17 min. Patients were discharged after 6.15 ± 2.23 h mean stay and follow-up complications (320 cases) were local and mechanic, inducing an immediate or secondary admission in 30.9% of these cases. As 77.5% of emergency procedures indications, ambulatory surgery, with a low morbidity level (8.45%) has permitted to obtain good results.

Neuromuscular effects, efficacy and safety of rocuronium versus atracurium in ambulatory anesthesia

DG Whalley, WG Maurer, AL Knapik, FG Estafanous

Anesth Analges 1997;84(2) (xxx)

INTRODUCTION: Rocuronium has been introduced into practice as a rapid onset nondepolarizing muscle relaxant of intermediate duration with few side effects and stable hemodynamic variables. Atracurium is used extensively in outpatient surgery because of its predictable recovery and cardiovascular stability at doses less than $2 \times$ ED95. Our objective was to compare the neuromuscular effects, safety and efficacy of $2 \times$ ED95 rocuronium and atracurium in ambulatory surgery.
METHODS: With IRB approval and informed consent, 41 patients undergoing laparoscopic gynecological outpatient surgery were enrolled in a randomized, controlled, double-blinded study. After premedication with midazolam 1–2 mg, patients were anesthetized with propofol 1.8 mg/kg and alfentanil 9 μg/kg. Rocuronium 0.6 mg/kg (group R, $n = 20$) or atracurium 0.5 mg/kg (group A, $n = 21$) were given after a control recording of the mechanomyogram had been obtained. Anesthesia was maintained with N_2O/O_2, propofol and alfentanil, and the block reversed if the train-of-four ratio was $< 70\%$ (T1/T470) at the end of surgery. Intubation was attempted 60 s after injection of the muscle relaxant and graded 1–4. If intubation was unsuccessful, another attempt was made at 90 and 120 s. Onset time was defined as the time from injection of the relaxant to peak depression of T1, and clinical duration as the time from injection to return of T1 to 25% of control. Adverse events including histamine related symptoms (erythema and bronchospasm) were noted. Data were compared using Student's t-test, Wilcoxon's test or Fisher's exact test.
RESULTS: The patients were ASA Class 1 or 2 and were demographically similar in both groups. All patients in group R were intubated in less than 90 s from injection of the relaxant, in contrast to only 14 patients in group A. Intubating conditions were rated good to excellent (grades 3 and 4) in 18 patients in group R and 20 patients in group A ($P = 0.6$). T1 was ablated in both groups, but in group R the onset time was shorter (59 vs. 99 s, $P < 0.001$), as was the clinical duration (33 vs. 45 min, $P < 0.001$). There were more patients in group A reporting adverse events than in group R (6 vs. 3, $P = 0.454$), but none of the events were severe. The most common adverse event was nausea and vomiting (group R, 1 patient; group A, 3 patients). Flushing was observed in one patient in group A. Surgery was of sufficient duration in ten patients in group R and six patients in group A for us to observe spontaneous recovery. The mean time from injection of relaxant to T1/T470 was similar in both groups (group R, 53 min; group A, 59 min; $P = 0.139$), whereas the recovery index was slightly longer in group R (10 vs. 8 min in group A, $P = 0.023$).
DISCUSSION: We have demonstrated that in patients undergoing ambulatory anesthesia for laparoscopic gynecological surgery, rocuronium was associated with a quicker onset and shorter clinical duration than an equipotent dose of atracurium. The quicker onset of rocuronium facilitates a more rapid, smoother intubation and the shorter clinical duration ensures a more predictable response to reversal drugs. The time to spontaneous recovery to T1/T470 was, however, similar for the two muscle relaxants. We observed a higher incidence of adverse events with atracurium.

A comparison of nausea and vomiting after ondansetron premedication with either propofol or desflurane following tubal ligation

G. Arndt, S Springman, M McSweeney

Anesth Analges 1997;84(2)

INTRODUCTION: Nausea and vomiting are common following tubal ligation (TL). Ondansetron is a serotonin type 3 antagonist antiemetic. This study compares the incidence of nausea and vomiting following the prophylactic administration of ondansetron using two different anesthetic techniques, intravenous (IV) propofol or desflurane anesthesia.
METHODS: Following IRB approval, 66 ASA 1 or 2 patients requiring TL were enrolled at the University of Wisconsin Outpatient Surgery Clinics. All were medicated with ondansetron, 4 mg IV, following induction. Anesthesia was randomly assigned and maintained with either IV propofol, $n = 33$ or desflurane, $n = 33$ both with nitrous oxide. All were premedicated with alfentanil 15 μg/kg IV and midazolam 0.03 mg/kg IV, paralyzed with atracurium and received ketorolac 60 mg intramuscularly. The propofol group was induced with propofol and the desflurane group with methohexital. The incisions were infiltrated with bupivacaine 0.25%. Postoperative pain was treated with hydromorphone IV. The incidence of nausea and vomiting are reported in Table 1 for the first 60 post-anesthetic min. A table is presented. Both the patients and the post-anesthesia nurses were blinded to the anesthetic. All data was analyzed using Microsoft Excel. Statistical comparisons were made using the χ^2 test with P values of < 0.05 being considered significant.
DISCUSSION: Ondansetron with propofol has a significantly lower incidence of nausea at 60 min compared to ondansetron with desflurane. The incidence of nausea following ondansetron antiemetic premedication is affected by the anesthetic technique. The incidence of vomiting is not. Intergroup hydromorphone requirements were not significant.

Cancellation of pediatric outpatient surgery: economic and emotional implications for patients and their families

AR Tait, T Voepel-Lewis, HM Munro, HB Gutstein, PI Reynolds

J Clin Anesth 1997;9(3):213–19

STUDY OBJECTIVE: To determine the cause and timing of case cancellation in a pediatric outpatient surgical population, and to examine the economic and emotional impact of such cancellations on patients and their families. *Design:* Questionnaire survey.
SETTING: Outpatient surgery unit of a large university children's hospital.
PARTICIPANTS: 127 parents of children whose elective outpatient surgery had been cancelled.
INTERVENTIONS: A total of 200 questionnaires were mailed to the parents of children who had their outpatient surgery cancelled.
MEASUREMENTS AND MAIN RESULTS: Of those children whose surgery had been cancelled, 34.6% were due to upper respiratory infectious (URIs), 30.7% for other medical reasons, and the balance for scheduling errors, because the child had not fasted, or for difficulties with transportation. The majority of surgeries (58.3%) were cancelled prior to their scheduled surgery date. However, 18.9% were cancelled on the day of surgery prior to leaving for the hospital and 22.8% were cancelled on arrival at the outpatient surgery clinic. Of those patients whose surgeries were not cancelled until they arrived at the hospital, 38.5% of mothers and 50.0% of fathers missed a day of work and, of these, 53.3% and 42.1%, respectively, went unpaid for the work day missed. The mean number of miles driven (round trip) to the hospital for a cancelled operation was 158.8 miles (range 8–1350 miles). Additional testing and new appointments were ordered in 25.2% of the cancelled cases, 45% of parents and 16% of children were disappointed by the cancellation; 16% of parents were frustrated by the cancellation and 3.3% were angry.
CONCLUSIONS: This study suggests that last-minute cancellations of surgery has an important impact on patients and their families and suggests a need to review present protocols for screening patients prior to surgery.

Intrathecal sufentanil for extracorporeal shock wave lithotripsy provides earlier discharge of the outpatient than intrathecal lidocaine

WC Lau, CR Green, GJ Faerber, AR Tait, JA Golembiewski

Anesth Analges 1997;84(6):1227–231

Many anesthetic techniques are currently used for extracorporeal shock wave lithotripsy (ESWL). This randomized, prospective, double-blind study was designed to examine postoperative recovery with two anesthetic techniques for unilateral ESWL; i.e., intrathecal sufentanil versus intrathecal 5% lidocaine. The incidence of adverse effects was also assessed. A total of 22 ASA physical status I–III patients, 18–70 years of age who were scheduled for unilateral ESWL under spinal anesthesia were studied. Patients were randomized to receive either intrathecal sufentanil 20 μg + saline ($n = 11$) or intrathecal 5%, lidocaine ($n = 11$) based on their height. Both patients and observers were blinded to the treatment groups. Patients were assessed for intraoperative and postoperative pain via a 10-cm verbal analog pain scale (VAPS) (0 = no pain, 10 = extreme pain). Stone sizes, number of shock waves, and voltages were also compared. The recovery profile time to ambulate, void, oral intake, and home discharge was documented. Antiemetic requirements in the postanesthesia care unit (PACU) and incidence of postoperative nausea and vomiting (PONV), pruritus, and sedation were also recorded. This study showed no differences in VAPS between groups at any time in the perioperative period. Patients who received intrathecal sufentanil ambulated (79 ± 16 vs. 146 ± 57 min mean $\pm$ S.D., $P < 0.05$), voided (80 ± 18 vs. 152 ± 54 min, $P < 0.05$), and were discharged home (98 ± 17 vs. 166 ± 50 min, $P < 0.005$) significantly sooner than the patients who received intrathecal lidocaine. Although 27% (3 of 11) of the patients who received sufentanil reported pruritus, respiratory depression was not found. There were no differences in PONV between the two groups. Intrathecal sufentanil provided an enhanced recovery profile with significantly earlier home discharge when compared with intrathecal lidocaine. In conclusion, intrathecal sufentanil is a safe and effective method of anesthesia for outpatient unilateral ESWL.

Surgical-cryotherapic ambulatorial treatment of anal fissure. Our experience

M Maturanza, F Maritato, A Costanzo, R Pavero, G Battistini, S Sal

Minerva Chir 1997;52(4):393–5

The authors describe their technique and their experience of ambulatorial surgical-cryotherapeutic combinated, treatment of anal fissure. The data were observed in 35 patients (medium age 37.5); in 16 cases, previous treatments gave no benefit. The surgical treatment was the lateral internal close sphyncterotomy according to Notaras, with local anesthesia (personal technique), followed by a fissure curettage with a *N*-protosside cryosound. The results confirm the well known effectiveness of lateral internal sphyncterotomy and the validity of ambulatorial treatment and of cryotherapy.

Local anesthesia in inguinal hernia surgery. Technical note

P Palumbo, M Pulcini R Turano, E Mercuri, A Fantera, AM Angelici

Minerva Chir 1997;52(4):509–12

Routine use of local anaesthesia associated with tension free hernioplasty in surgical treatment of inguinal hernia allows an immediate patient walking and prompt discharge from the hospital unit: with this technique 89 cases in 2 year were operated. The anaesthesia-related discomforts and complications are minimal. The addition of an intravenous sedative (propofol) premis to extend this approach to anxious patients too.

Day-case adenoidectomy: how popular and safe in a rural environment?

N Siddiqui, MW Yung

J Laryngol Otol 1997;111(5);444—6

In spite of previously favourable reports on day-case adenoidectomy, there are still worries amongst otolaryngologists that such practice is unsafe, especially in a rural environment. A national survey was therefore carried out which shows that only 41% of respondents perform adenoidectomy routinely as day-cases, and even fewer in rural areas. A regional audit on day-case adenoidectomy, covering five hospitals, was conducted in East Anglia. Between 1994 and 1995, 73 day-case adenoidectomies were performed and the outcome was compared to those of 183 in-patient adenoidectomies during the same period. The children in the day-case group recovered post-operatively even better than the in-patient group. None of them stayed overnight or required re-admission. There was no increased in post-operative consultation to the general practitioner. The parents in the day-case group were mostly in favour of the day-case arrangement (88%). The results suggest that day-case adenoidectomy is safe and popular with parents even in a rural environment.

Cost-effectiveness of transaxillary muscle-sparing same-day operative closure of patent ductus arteriosus

F Cetta, SY Deleon, PT Roughneen, LC Graham, RC Lichtenberg, TJ Bell, DA Vitullo, EA Fisher

Am J Cardiol 1997;79(9);1281–2

Transaxillary muscle-sparing patent ductus arteriosus closure performed as same-day surgery is described in ten patients. This approach provides a superb cosmetic result while obviating the need for thoracostomy tube placement.

The impact of regionalization on a surgery program in the Canadian Health Care System

SM Hamilton, S Letourneau, E Pekeles, D Voaklander, WC Johnston, CW Pinson

Arch Surg 1997;132(6):605–10

OBJECTIVE: To examine the impact of the regionalization of health care on the provision of surgical services in the Capital Health Region (Edmonton) of the province of Alberta.
DESIGN: A 4-year retrospective descriptive analysis using data from the Canadian Institute for Health Information and from the Capital Health Region data banks.
SETTING: To control health care costs, the provincially funded health care system in Alberta reformed its governance structure and service provision model. We studied community hospitals and an academic health sciences center.
PATIENTS: All patients undergoing surgical care in the region.
INTERVENTIONS: Regionalization of the organizational structure with the elimination of hospital boards, consolidation of services on specific sites within the regional system, and a major reduction in funding.
OUTCOME MEASURES: Inpatient and day surgery procedure volumes, average length of hospital stay, relative value units, bed use, and mortality. RESULTS: The Capital Health Region has a population of 723000 people, with five acute care institutions. In total, 18 clinical programs now provide care through two referral hospitals and three community health centers. The reduction in operating dollars for this region was $167.1 million from fiscal years 1992 to 1993 and 1996 to1997. Redistribution of surgical services occurred on July 1, 1995, resulting in an 18% inpatient bed reduction. Regionally, the number of acute care beds has declined from 2.25 to 1.47 per 1000 population ($P < 0.001$). Bed use has fallen from 637 to 442 inpatient days per 1000 population ($P < 0.001$). The surgery volume (1995–1996) was 44770 procedures (-3.1%). Redistribution of surgical services into high- and low- acuity settings has resulted in most surgeons working on two sites. Overall average length of hospital stay has decreased significantly ($P < 0.001$); however, it has increased, together with the average relative value units, in the institutions caring for patients with high-acuity surgical illnesses. Mortality remains unchanged.
CONCLUSIONS: Regionalization and funding reductions within the surgical program in the Capital Health Region have resulted in a small reduction in surgical volumes. There have been major changes in service provision and the way surgeons practice.

Endoscopically assisted plastic surgical procedures in the pediatric patient

TY Paige FF Eaves III, RJ Wood

J Craniofacial Surg 1997;(8)3:164—9

Endoscopically assisted surgery has gained wide popularity in plastic surgery. Its major uses have been in aesthetic procedures. In this article we demonstrate the safety and utility of these techniques to a pediatric population. All patients younger than 20 years who underwent an endoscopically assisted plastic surgical procedure by one of the authors were pooled and their medical records reviewed. Complications were determined. For those children having an excision of a forehead mass, the duration of the procedure, length of incision, specimen size, and length of hospital stay were determined. Additionally, parents of these children were contacted by telephone after the excisions to determine satisfaction with the procedures. The records of 16 patients' were reviewed. Patients' ages ranged from 6 months to 15 years (mean, 5.8 years). The procedures performed included removal of forehead mass ($n = 9$), placement of tissue expanders ($n = 5$), excision of gynecomastia ($n = 1$), and malar soft tissue elevation ($n = 1$). All procedures were completed with endoscopic assistance. One procedure had to be converted to an open technique. No hematomas were observed. For forehead mass excisions, the average duration of the procedure was 46.9 min. Incision length was 1.1 cm, and specimen volume was 0.5 cm^3. Parent satisfaction with the endoscopic procedures was high, with 100% responding favorably. No significant complications were observed. Many of the procedures were performed as outpatients. Parental acceptance of and satisfaction with the endoscopic techniques was high. Our experience supports the use of endoscopic techniques in the pediatric plastic surgical patient.

Subarachnoid anesthesia with minimal doses of lidocaine in arthroscopic outpatient knee surgery

M Raich-Brufau, JA Jimenez-Perez, FJ Gonzalez-Carrasco, P Martinez-Ripol, M Jornet-Ballo

Rev Espan Anestesiol Reanim 1997;(44)5:204—6

The objective is to demonstrate that subarachnoid anesthesia with 2% isobaric lidocaine at low doses (0.5 mg/kg) is safe and effective for outpatient arthroscopic surgery of the knee. This was a prospective study of 150 ASA I–III patients undergoing arthroscopic knee surgery as outpatients under subarachnoid anesthesia. With no prior vascular filling, we provided blockade by administering 2% isobaric lidocaine at a dose of 0.5 mg/kg through a Sprotte 25G needle without vasoconstrictor. We assessed effectiveness and degree of sensory-motor blockade, cardiovascular repercussions, recovery time (until reversal of blockade, ambulation, micturition and discharge) as well as side effects observed. The mean dose of lidocaine used was 33.44 ± 4.16 mg. The sensory-motor blockade achieved provided optimum conditions for prevention of ischemia and the practice of the surgical procedure in all cases. Surgery lasted a mean 38 ± 10 min. Hemodynamic changes were not clinically significant and no patients additional fluids, atropine or vasopressors. Time from start of blockade until ambulation, micturition and discharge from the recovery unit were 123 ± 8.3, 175 ± 12.4 and 194 ± 13.4 min, respectively. Micturition was spontaneous in all cases. Complications recorded were cephalea and backache. In conclusion, subarachnoid anesthesia at low doses of 2% isobaric lidocaine provides excellent conditions for practicing arthroscopic surgery of the knee on outpatients, with minimum side effects.

Outpatient orthognathic surgery: review of 205 cases

JP Lupori, JE Van Sickels, WC Holmgreen, L Jackson

J Oral Maxillofacial Surg 1997;55(6):558–63

PURPOSE: This article reviews the evolution of outpatient orthognathic surgery from 1988 to 1995 at the University of Texas Health Science Center at San Antonio.
PATIENTS AND METHODS:A total of 328 patients had orthognathic surgery from 1988 to 1995; 205 (124 females, 81 males) were treated on an outpatient basis in the surgical suite of the dental school. Procedures included bilateral sagittal split osteotomies (BSSO), Le Fort I osteotomies (LFI), horizontal mandibular osteotomies (HMO), rapid palatal expansions (RPE), and combinations of the above. Additional procedures such as submental liposuction, blepharoplasty, dorsoseptorhinoplasty, and otoplasty were performed on 22 patients. Patient age ranged from 13 to 64 years, (average age 25).
RESULTS: 94 (46%) of the patients were discharged the day of surgery, 102 (51%) were admitted for 23-h observation, and five (2.4%) were admitted for longer than the 23-h observation period. Anesthesia time over 4:28 significantly correlated with admission for observation status. There was no significant difference between LFI and BSSO in relation to admission for observation status.
CONCLUSIONS: The number and complexity of orthognathic procedures increased dramatically over the study period. The length of anesthesia time, but not the specific procedure, correlated significantly with admission to observation status. There were few unexpected complications, with considerable cost reduction and convenience for the patients.

Comparison of inguinal and laparoscopic approaches in the treatment of varicocele

V Ulker, H Garibyan, K-H Kurth

Int Urol Nephrol 1997;29(1):71–7

To determine the pros and cons of inguinal and laparoscopic varix ligation techniques, we reviewed 53 patients who underwent inguinal ($n = 35$) and laparoscopic ($n = 18$) varicocelectomy at two centers. Intraoperative complications were not observed in either of the groups. There was 1 recurrence and 1 persistence in the laparoscopically treated patients. The inguinal approach had the advantage of shorter operating time (19.1 versus 52.8 min), ability to ligate the external spermatic veins, and it could be performed as an outpatient procedure. However, the laparoscopic approach seemed superior for preserving the spermatic artery (88.8% versus 68.5%) and had lesser postoperative morbidity.

A comparison of prophylactic ondansetron and droperidol for strabismusrepair in adults

PE Jones, EA Doe, MC O'Hara, RS Brown

South Med J 1996;89(10):S10

The purpose of this study is to determine whether any differences exist between ondansetron and droperidol in the relief of nausea and vomiting in adults having strabismus surgery. Thus far, we have prospectively randomized 22 adult patients (ages 15–65) to receive either IV droperidol or ondansetron treatment intraoperatively. Nausea and sedation levels are rated by patients immediately postoperatively, in the same-day surgery unit, and at 24 h postoperatively. Other variables being measured include episodes of emesis, time to release from the PACU, time to discharge, incidence of headache, and anxiety level. To date, ten patients have received ondansetron and 12 have received droperidol. There appears to be a significant difference in the amount of time to discharge between the groups. This difference may justify the increased cost of using ondansetron.

Efficacy and financial benefit of an anesthesiologist-directed university preadmission evaluation center

MA Starsnic, DM Guarnieri, MC Norris

J Clin Anesth 1997;9(4):299–305

STUDY OBJECTIVE: To study the effectiveness of an anesthesiologist-directed preadmission evaluation center (PEC) in our institution. *Design I:* Preoperative test costs were measured on two sets of patients undergoing same-day surgery. *II:* Rate of cancellation was measured on all patients undergoing same-day surgery in a subsequent 1-year time period.
SETTING: The PEC, short procedure unit, and same-day admission unit of a university hospital. *Patients:* I: 3062 male and female patients undergoing same-day surgery between January 1, 1992, and August 31, 1992. II: 9454 male and female patients undergoing same-day surgery between July 1, 1993, and June 30, 1994.
INTERVENTIONS: Age, ASA physical status, type of surgery performed, and tests ordered were recorded in two groups of same-day surgical patients. Group S had testing primarily ordered by surgeons, augmented by the anesthesiologists in the PEC. Group A had testing primarily ordered by the anesthesiologists in the PEC, but surgeons could still order tests they felt necessary. On the day of surgery, the attending anesthesiologist recorded any additional testing that was required or would have altered intraoperative management. In a follow-up study, cancellations of same-day surgical patients were recorded for a 1-year period.

MEASUREMENTS AND MAIN RESULTS: I. With the exception of complete blood counts with differentials, significantly fewer tests were ordered in Group A than Group S. These changes produced an average cost savings of $20.89 per patient. There were no recorded cancellations or apparent alterations in intraoperative management attributable to inadequate testing. II. Of the 9,454 same-day procedures from 7/1/93 to 6/31/94, 66 were cancelled on the day of the procedure. None of the patients seen in the PEC were cancelled due to causes possibly preventable by a PEC, unlike the cases of four patients who had not been evaluated in the PEC and were cancelled.

CONCLUSION: A PEC, in which the anesthesiologist primarily orders preoperative tests and approves patients readiness for surgery, is both an efficient and cost-effective system.

Day-case cataract surgery in rural Spain

JR Villada, J Albisu

J Cataract Refractive Surg 1997;23(4):581–2

OBJECTIVE: To ascertain how many patients in a rural area of Spain would qualify for and choose to have day-case cataract surgery.
SETTING: Departmento de Oftalmologia, Hospital Comarcal, Hellin, Albacete, Spain.
METHODS: All patients intending to have cataract surgery in 1993 responded to a five-question survey. Only patients answering yes to all five questions were considered candidates for day-case surgery.
RESULTS: Of 374 patients, 33 (9.0%) answered yes to all five questions. Only 7 of the 33 (1.9%) subsequently had day-case surgery.
CONCLUSION: Establishing a day-case cataract surgery unit in rural areas requires consideration of factors not present in urban areas and may require more time for patient acceptance.

Outpatient surgical treatment of cervical radiculopathy

CR Tomaras, JB Blacklock, WD Parker

J Neurosurg 1997;87(1):41–3

A series of 200 patients who underwent outpatient surgical treatment for cervical radiculopathy is presented. The patients were selected on the basis of their willingness to undergo surgery in the outpatient setting and the absence of serious underlying medical conditions. All operations were performed using general anesthetic techniques with limited posterior dissections. A laminoforaminotomy was performed at each affected level, which had been determined by preoperative imaging and clinical examination. After being observed for several hours, the patients were discharged if they met specific criteria. No patient required subsequent hospital admission in the immediate postoperative period. Follow up review in 183 patients ranged from 3 to 43 months, with a mean of 19 months. In cases in which Workers' Compensation claims were not involved, 92.8% of patients reported an excellent or good outcome and returned to work or comparable duties at a mean of 2.9 weeks. In cases in which Workers' Compensation claims were involved, 77.8% of patients reported excellent or good outcome and returned to work at a mean of 7.6 weeks postoperatively. Two patients whose cases involved Workers' Compensation claims did not return to work. There were seven patients (3.8%) who had a poor outcome. Two of these patients underwent a second posterior procedure and reported a good outcome at the time of follow- up review. The results of this study show that outpatient surgical treatment of cervical radiculopathy can be safely provided in selected patients with outcomes similar to the inpatient surgical management of these individuals.

Morbidity and mortality with outpatient anesthesia: The experience of a residency training program

MJ Hunter, AM Molinaro, JJ Lytle

J Oral Maxillofacial Surg 1997;55(7):684–8

PURPOSE: Previous studies regarding anesthetic-related morbidity and mortality rates in the oral surgery office have usually taken the form of a survey. This retrospective investigation of outpatient anesthetic morbidity and mortality was undertaken to compare the safety record of an oral and maxillofacial surgery training program with that of private practitioners.
MATERIALS AND METHODS: Records from all outpatient general anesthesia cases performed in the Department of Oral and Maxillofacial Surgery at the Boston University Goldman School of Graduate Dentistry between August 13, 1990, and September 30, 1994, were reviewed for the incidence of nineteen separate categories of morbidity.
RESULTS: There were 1126 general anesthetics performed. There were 26 recorded incidents of morbidity (2.3%), none of which resulted in any postoperative sequelae. There were no deaths. The most common complication encountered was laryngospasm, with nine recorded incidents (0.8%). The second most common complication was cardiac dysrhythmia with eight recorded incidents (0.8%).
CONCLUSIONS: The low incidence of anesthetic-related morbidity seen in this study can most likely be attributed to proper patient selection. A carefully reviewed medical history and physical examination are the two most useful methods to prevent anesthetic emergencies. Another factor considered when selecting the proper anesthetic method includes the length and difficulty of the surgical procedure, with outpatient general anesthesia being reserved for those procedures that are predicted to be relatively short (30–45 min), and with little potential for airway difficulties.

Outpatient thyroidectomy

PS Samson, FR Reyes, WN Saludares, RP Angeles, RA Francisco, ER Tagorda, Jr.

Am J Surg 1997;173(6):499–503

In current clinical practice, the concept of outpatient surgery could apply to thyroidectomy. As the thyroid is anatomically accessible, its removal is not physiologically disabling; it makes surgery safer and precludes hospitalization. To evaluate the feasibility and solidity of outpatient thyroidectomy (OPT), the authors conducted a 12 1/2-year study (1982–1994), including an earlier 4-year randomized trial on 309 and cumulative post-trial experiences in 869 cases. The results showed the safety, practicality, and efficacy of OPT as compared with standard thyroidectomy. The study confirms the validity of OPT end is suggested for selected patients with thyroid disease.

The efficacy of tramadol hydrochloride in the treatment of postoperativepain

MD Vickers

Rev Contemp Pharmacother 1995;6(10):499–506

Tramadol is as effective as morphine given parenterally for the treatment of pain immediately following major surgery in in-patients, and is associated with significantly less desaturation of the arterial blood on air. Administration before the end of anaesthesia reduces the amount of postoperative analgesia required. It can be used for

patient controlled analgesia, but current programming regimes used for conventional opioids are inappropriate. Tramadol may be particularly appropriate as a 'take home' analgesic after day-stay surgery. As it is not a controlled drug, it will be relatively more convenient to prescribe and administer than other powerful analgesics. Tramadol is also effective by the epidural route but needs a dose equivalent to the systemic dose: however, its duration of action is very much longer by this route. Tramadol can be given to children, nursing mothers and in the presence of renal or hepatic disease, provided the dose is adjusted. Overdose leading to respiratory depression can be reversed with naloxone. Nausea (and to some extent vomiting) are the principle side effects.

Out-patient procedures in hand surgery

K Fischer

Handchir Mikrochir Plast Chir 1997;29(3):164–5

The prerequisites for out-patient surgery of the hand, from a surgeon's standpoint, as well as from a patient's standpoint are described. Compromises in quality are not to be accepted, and it is not necessary to establish a list of procedures suitable or not suitable for out-patient treatment.

A comparison of propofol-alfentanil, propofol-sufentanil, or propofol-fentanyl for total intravenous anesthesia

YF Sung, PC Moore

Pharmacologist 1997;39(1):110

Anesthesia for outpatient surgery necessitates the use of drugs that allow a rapid recovery profile. This double-blind study examined a simple method for total intravenous anesthesia using propofol in combination with a short-acting opioid for outpatient laparoscopic gynecology procdures. In 46 ASA I and II patients under general anesthesia, a visual analog assessment of alertness, nausea, and pain, was obtained pre- and postop. All patients had oral ranitidine, induction with propofol, atracurium for muscle relaxation, and maintenance with an infusion of propofol in combination with an equianalgesic concentration of either fentanyl, alfentanil, or sufentanil. The average infusion rate of 1 ml/min for all three groups was terminated immediately after abdominal CO_2 decompression. The Post Anesthesia Care Unit stay ranged from 101.23 to 132 min ($P < 0.205$). This study presents a simple intravenous anesthesia technique using the combination of propofol and short-acting opiods in one infusion pump.

Distal hypospadias repair with meatal-based flaps on an outpatient basis

O Sariyuce, DR Roth, ET Gonzales, Jr

Int Urol Nephrol 1997;29(2):241–4

We report the results of primary repairs that were performed on 52 consecutive patients with distal hypospadias as an outpatient procedure. A modified Mathieu repair with mental-based vascularized flap was performed under 2.5 optical magnification using Scottring retractors, traction sutures, micro instruments and fine suture material. A total of 3 patients had complications that required reoperation (5.8%). One of these 3 complications was a urethrocutaneous fistula (1.9%). We found that the repair of distal hypospadias was successful with meatal-based flap using contemporary freer approaches and equipment.

Grading of severity of postdural puncture headache after 27-gauge Quincke and Whitacre needles

MP Corbey, AB Bach, K Lech, AM Frorup

Acta Anaesthesiol Scand 1997;41(6):779–84

BACKGROUND: Small-gauge needles are reported to have a low incidence of complications. Pencil-point needles are associated with a lower frequency of postdural puncture headache (PDPH), but a higher failure rate than Quincke needles.
METHODS: The incidence of PDPH was investigated in 200 patients under the age of 45, undergoing day-care surgery after spinal anaesthesia with either 27-gauge Quincke or Whitacre needle. The severity of headache was graded as I (mild), II (moderate) or III (severe) using a grading system based on the visual analogue scale (VAS) associated with a functional rating (FG).
RESULTS: The frequency of PDPH following the Whitacre needle was 0 and 5.6% after the Quincke needle ($P = 0.05$). Two PDPHs were assessed as grade III, and three as grade II. All PDPHs occurred when the Quincke needle bevel was withdrawn perpendicular to the dural fibres following parallel insertion. No PDPH occurred when the bevel was inserted and removed parallel to the dural fibres ($P < 0.05$). There was no statistical difference ($P > 0.8$) in the incidence of PDPH and postdural puncture-related headaches (PDPR-H) in patients with recurrent headaches or migraine compared to patients with no previous history of headaches.
CONCLUSIONS: We conclude that the 27-gauge Whitacre needle is the 'needle of choice' in patients with normal body stature. The incidence of PDPH following Quincke needles may not only be affected by the direction of the bevel during insertion but also during removal. Statistically, there was no gender variation in PDPH in this study ($P = 0.5$). A previous history of recurrent headache or migraine does not predispose to PDPH.

Day surgery at Korle Bu Teaching Hospital: a six year review

EQ Archampong, R Darko

West Afric J Med 1996; 15(3):143–8

Day surgery is not simply a matter of economics for the health institution or the individual patient, or improved utilization of scarce and dwindling resources, or even a matter of increasing access to health care, fundamental as this is to us in the developing world. The ultimate question is to what extent does it satisfy the true needs of the patient and meet the requirements of his care as a whole. To address this day surgery in a general surgical unit has been reviewed over a 6 year period. This covered a total of 1547 cases consisting of hernias, hydroceles, excision biopsies, varicose veins etc. Infiltrative local anaesthesia using lignocaine (4 mg/kg) mostly with 1 in 200000 adrenaline added proved effective in 98% of cases; there were no deaths. For the institutions day surgery has proven cost effective, lowering cost of operative treatment and improving utilization of scarce resources. It has also proven eminently acceptable to patients and their families, enhancing access to care and significantly reducing the personal cost of treatment. To demonstrate enchanced health economics future studies should ideally show a parallel diminution of in-patient bed facilities with increasing load of day surgery.

Office hysteroscopic polypectomy

S Bettocchi, M Vicino, L Mei, R Di Venere, B Van Herendael

Ital J Gynaecol Obstet 1997;9(2):80–1

OBJECTIVE: To evaluate the safety, effectiveness and feasibility of office hysteroscopic polypectomy.

METHODS: Over a period of 4 years, 289 cervical polyps and 277 endometrial polyps were treated surgically in an office setting without the use of any pre-medication or anaesthesia. The instrument used was a 2.9 lens-based scope with a new continuous flow operative sheath with an oval profile (5.7×3.5 mm) and 5 Fr mechanical or electrical instruments.
RESULTS: The treatment generated discomfort or mild pain in 3.5% of the patients with cervical polyps and in 11.2% with endometrial polyps. Bleeding after polypectomy was absent or mild. Follow-up at 3 months showed positive results in 99% of the cases.
CONCLUSIONS: Polypectomy is effective and safe as an office procedure using newly developed instruments and techniques.

An audit of paediatric day care surgery in a District General Hospital

DM Jolliffe

Paediatr Anaesth 1997;7(4):317–23

At a 620-bed District General Hospital, questionnaires were issued to the patients of 142 consecutive paediatric day surgery cases and the nurses involved in the care of these children. Most of the children were not upset by day case surgery, although nearly a quarter were distressed by changing into a theatre gown. Postoperatively, pain was more of a problem than nausea and vomiting. Relatively minor problems occurred at home. The majority of the 93 parents who replied were happy with the overall care of their child. They valued being present for induction of anaesthesia and would have liked to be present in recovery when their child was awake, although the nurses felt this would not have been helpful. Nonclinical matters also influenced their assessment of the quality of care.

Outpatient laparoscopic cholecystectomy

O Mjaland, J Raeder, V Aasboe, E Trondsen, T Buanes

Brit J Surg 1997;84(7):958–61

INTRODUCTION: The results of laparoscopic cholecystectomy performed as an outpatient procedure were evaluated in a prospective study.
METHODS: Initially, only well motivated and healthy patients were offered outpatient laparoscopic cholecystectomy. After 50 procedures, all patients referred to the hospital, except those with American Society of Anesthesiologists (ASA) grade IV anti those living alone, were included. Some 200 procedures were studied.
RESULTS: In total, 12 patients (6%) were admitted, and 188 (94%) were discharged 4–8 h after operation. There were 15 patients (8%) who had early discharge were readmitted, nine with complications; in six no complications were documented. The frequency of minor complications was 2% and of major complications 5%. Some 173 patients who had successful outpatient laparoscopic cholecystectomy completed a questionnaire: 164 (95%) characterized their experience as excellent, five (3 per cent) as good, two (1%) as intermediate and two (1%) as unacceptable.
DISCUSSION: This high achievement of day-case treatment even in patients with ASA grade III, is explained by a new anaesthetic regimen together with good surgical technique and close follow-up.

Provision of a day case abscess service

IM Loftus, DFL Watkin

Annals of the Royal College of Surgeons of England 1997;79(4):289–90

We have established a day case service for the surgical treatment of superficial abscesses and present the results of our first 100 patients. We feel that this is an efficient and safe service with 92% treated within 6 h of arrival in hospital and no complications in this series of patients. It has important implications for the management of this common surgical problem.

Demand on primary health care after day surgery

KL Kong, DL Child, IA Donovan, D Nasmyth-Mller

Ann R Coll Surg Engl 1997;79(4):291–5

We have audited the frequency and nature of demands made on general practitioners, and the rate of surgical and anaesthetic complications within the first 7 days after day surgery. Semi-structured questionnaires were posted to the general practitioners of patients who attended the hospital's day care ward for a surgical procedure over a 6 month period. In all, 1798 questionnaires were sent, of which 1533 (85.3%) were returned. A total of 247 (16.7%) patients consulted their general practitioners after day surgery, the principal reason being pain (113 patients). Patients who underwent incisional intermediate surgery had the highest rate (31.5%) of general practitioner consultations. This audit has quantified the workload which day surgery places upon general practitioners. It also demonstrates the importance of categorising the various procedures performed on a day case basis when examining patient outcome. Patients who underwent non-incisional minor surgery consulted their general practitioner less often than those who underwent incisional minor surgery, who in turn consulted their practitioner less often than those who underwent incisional intermediate surgery. It seems likely that an increase in workload for general practitioners is inevitable if more complex procedures are performed on a day case basis.

Pediatric outpatient anesthesia and perioperative care

AM Conran, RS Hannallah

Curr Opin Anaesthesiol 1997;10(3):205–8

The goals of pediatric outpatient anesthesia include prompt emergence, fast recovery, and safe discharge with good control of postoperative pain and vomiting. Many of the newer anesthetic agents and adjuncts, such as sevoflurane, desflurane, and ondansetron, have proved instrumental in achieving these goals.

Sorbitol 2.5% mannitol 0.54% irrigation solution for hysteroscopic endometrial ablation surgery

CL Moir, H Mandin, R Brant

Can J Anaesth 1997;44(5)I:473–8

PURPOSE: To determine if systemic absorption of sorbitol 2.5%/mannitol 0.54% irrigation solution (165 mosm l^{-1}) during hysteroscopic endometrial ablation with diathermy is associated with hyponatraemia and hypoosmolality.

METHODS: In 35 day surgery patients in a university hospital we measured baseline preoperative variables: serum sodium and creatinine concentrations and osmolality, haematocrit, haemoglobin, urine osmolality and sodium concentration, and weight. Fractional excretion of sodium (FE(Na)) was calculated. The same observations were obtained postoperatively before discharge (1 h post resection). Volumes of intraoperative fluid irrigation intravasation and perioperative intravenous fluid absorption (lactated Ringer's solution) were estimated clinically (volumetric).
RESULTS: The mean ($\pm$ S.D.) serum sodium concentration preoperatively was 140.3 ± 2.4 mmol l^{-1}; and postoperatively, 139.7 ± 2.2

mmol l^{-1} (P = NS). The serum osmolality decreased from 285.4 ± 4.5 to 282.6 ± 4.1 mmol kg^{-1} ($P < 0.001$). The mean volume of intravasated irrigation fluid was 26.4 ml (range 0–300). During the same time, the FE(Na) increased from 0.57 to 0.79% ($P < 0.001$).
CONCLUSION: In these patients, closely and continuously observed for imbalance between infused and collected irrigation fluid, there was no clinical evidence for hyponatraemic hypoosmolality. However, there was a small 1 ± 1.5% (mean ± S.D.; range −3.4–3.6%) decrease in plasma osmolality despite adequate blood volumes as shown by urinary sodium indices.

Effects of anesthetic technique on side effects associated with fentanyl oralet premedication

S Malviya, T Voepel-Lewis, J Huntington, M Siewert, W Green

J Clin Anesth 1997;9(5):374–8

STUDY OBJECTIVES: To evaluate the efficacy of 5–10 μg/hg of oral transmucosal fentanyl citrate (OTFC) as an anesthetic promedication, and to determine whether propofol induction reduces postoperative nausea and vomiting (PONV) in pediatric patients premedicated with OTFC undergoing outpatient surgery.
DESIGN: Prospective, randomized, double-blinded study.
SETTINGS: University of Michigan Health Care Systems and University of Arizona.
PARTICIPANTS: 62 ASA physical status I and II children aged 4–14 years (8.9 ± 0.5 years).
INTERVENTIONS: Subjects were randomly assigned to one of four groups: (1) OTFC premedication and halothane induction; (2) OTFC premedication and propofol induction; (3) placebo premeditation and halothane induction; and (4) placebo premedication and propofol induction. OTFC or placebo was administered 30 min prior to induction, and activity (sedation), apprehension, and cooperation scores were recorded before, at 15 and 30 min after study drug, and on induction. All perioperative adverse events were recorded.
MEASUREMENTS AND MAIN RESULTS: Children who received OTFC became drowsier and had a significant change from baseline in combined activity, apprehension, and cooperation scores, whereas those who received placebo became less cooperative at induction. Patients who received OTFC experienced more adverse events overall ($P < 0.001$) than patients who received placebo. Additionally, OTFC patients experienced more vomiting ($P < 0.001$) and pruritus ($P = 0.049$) than controls. The incidence of PONV in patients who received OTFC and halothane induction was 50%, compared to 30% in patients receiving OTFC and a propofol induction (P = NS).
CONCLUSIONS: OTFC in doses of 5–10 μg/kg was effective in producing sedation and facilitating cooperation with induction; however; it was associated with significant PONV in our study. Although propofol induction did not significantly reduce PONV in our study, further study with a larger sample, and with propofol as the sole anesthetic, may be warranted.

A microlaparoscopic technique for Pomeroy tubal ligation

ML Hibbert, JL Buller, SD Seymour, SE Poore, GD Davis

Obstet Gynecol 1997;90(2):249–251

OBJECTIVE: To evaluate the efficacy of performing Pomeroy tubal ligation using microlaparoscopic techniques.
METHODS: 38 consecutive women desiring permanent sterilization underwent laparoscopic Pomeroy tubal ligation using small (2 or 5 mm) transumbilical laparoscopes and secondary midline sites (5 mm and 14 gauge). The procedures were performed under general anesthesia ($n = 20$) or local anesthesia with conscious sedation ($n = 10$).
RESULTS: The mean operative time ± standard deviation (S.D.) in minutes was 33 ± 10.3. The mean recovery time ± S.D. in minutes was 104.3 ± 41.6. There were no operative complications, and no cases required conversion from the microlaparoscopic technique to a traditional method.
CONCLUSION: The results of this study indicate that the Pomeroy tubal ligation may be performed using microlaparoscopic techniques. Furthermore, in selected cases, this technique can be performed under local anesthesia in an outpatient setting.

Randomised placebo controlled trial of mefenamic acid for premedication at outpatient hysteroscopy: a pilot study

F Nagele, G Lockwood, AL Magos

Brit J Obstet Gynaecol 1997;104(7):842–4
An increasing number of diagnostic hysteroscopies are being performed in an outpatient setting. Most women tolerate the examination well, but the single commonest reason for failure is pain. We assessed the efficacy of a nonsteroidal, anti-inflammatory analgesic as premedication before hysteroscopy in a double-blind, placebo controlled trial. Our results showed that 500 mg mefenamic acid given 1 h before hysteroscopy had no significant benefit in the discomfort experienced during the procedure but did significantly reduce pain after hysteroscopy. A larger dose or a longer interval between premedication and hysteroscopy may possibly be associated with greater benefits.

Outpatient uncomplicated inguinal hernia repair versus in-hospital procedure-Analysis of 148 cases

R Krupinski, J Narebski, L Pomorski, M Bartos

Med Sci Monit 1997;3(2):213–16

In the years 1994–1995, 148 patients were operated on for inguinal hernia, including 136 (91.9%) males and 12 (8.1%) females. The age of the patients ranged from 18 to 64 years (average 47 years). 99 (79.5%) oblique and 49 (20.5%) direct hernias were found intraoperatively. After intramuscular premedication with the use of pethidine, promethazine and atropine, the patients were operated on under local anaesthesia (0.5% lidocaine). 92 (62%) patients underwent the Bassini operation and in 56 (38%) the Shouldice herniorrhaphy was used. Out of 148 patients, in 112 (75.7%) an outpatient procedure was applied, and 36 (24.3%) were hospitalized during a few days. In the outpatients, preoperative investigations were conducted in ambulatory departments. The patients were admitted to the Clinic in the morning, operated on in the afternoon and discharged in 4–8 h (median 6 h) after the procedure. The patients were followed up in outpatient departments. Among all outpatients, 2 (1.8%) developed ecchymosis, 3 (2.8%) experienced scrotum oedema, and in one (0.9%) wound infection occurred. Over the follow-up period ranging from 6 to 24 months no hernia recurred. There were no significant differences between the incidence rates of early and late complications in both groups of the patients. 97.3% of outpatients accepted outpatient herniorrhaphy, while only 61.1% of inpatients accepted an in- hospital procedure. The costs of outpatient hernia repair were several times lower than the costs of inpatient surgery. Conclusion: Outpatient repairs of uncomplicated inguinal hernia are as safe and effective as herniorrhaphy with a several-day hospitalisation period.

Analgesia after day case laparoscopic sterilisation. A comparison of tramadol with paracetamol/dextropropoxyphene and paracetamol/codeine combinations

IM Crighton, GJ Hobbs, IJ Wrench

Anaesthesia 1997;52(7):649–52

In a prospective, double-blind trial we compared the analgesic efficacy of tramadol during the first 24 h after day case laparoscopic sterilisation

with two commonly prescribed combination analgesics. A total of 75 women were allocated randomly to receive oral paracetamol 325 mg/dextropropoxyphene hydrochloride 32.5 mg, tramadol 50 mg or paracetamol 500 mg/codeine phosphate 30 mg as required after a standardised anaesthetic technique. There were no significant differences in average or worst pain, sleep disturbance, mobility, number of tablets taken, satisfaction or preference for stronger analgesia (26.2% of all patients). The incidences of nausea and vomiting were comparable between groups. There was a trend towards a lower incidence of central nervous system side-effects (drowsiness, dizziness, headache) in the paracetamol/codeine group. Tramadol may be considered an alternative analgesic for day case surgery although analgesic regimens of greater efficacy are required for many patients. The relative incidence of side-effects for tramadol and other analgesics requires further evaluation.

Hospital and ambulatory surgery center syndications: selling interests to physicians

S Becker, Ross and Hardies
J Health Care Fin 1997;23(4):60–70

Physician ownership in hospitals and ambulatory surgery centers remains a relatively surefire method of protecting a portion of a facility's revenues. Implementation of a plan to broaden physician ownership requires compliance with legal and regulatory schemes. This article discusses the prototypical business terms of such transactions, outlines the process for completing such syndications, and analyzes the legal statutes that must be complied with in implementing the effort.

Laparoscopic cholecystectomy as an outpatient procedure

D Lam, R Miranda, SJ Hom

J Am Coll Surg 1997;185(2):152–5

BACKGROUND: Laparoscopic cholecystectomy is still done mainly on an inpatient basis at hospitals or on an outpatient basis at ambulatory care departments inside hospitals.
STUDY DESIGN: We reviewed 213 cases in which outpatient laparoscopic cholecystectomy was done at an ambulatory surgical center not associated with a hospital physically or administratively. Patients were selected solely on the basis of medical history and physical examination results. Patients received general anesthesia as is typical for outpatient procedures. Narcotic use was minimized to prevent postoperative nausea. The procedure did not include intraoperative cholangiography.
RESULTS: Laparoscopic cholecystectomy took 1–2 h in three quarters of patients. Rate of conversion to open cholecystectomy was 2.8% (6 of 213 patients). The mean recovery period was 6.6 h, and 97% of patients were discharged on the same day (i.e. were treated as outpatients). We identified no cases of retained common duct stone. Wound complications included mainly seroma, wound seepage, and wound infection; 18% of these complications were seen at trocar sites. No major complications were seen.
CONCLUSIONS: Elective outpatient laparoscopic cholecystectomy can be done safely with low morbidity, high patient acceptance, and same-day discharge in $>95\%$ of cases.

The effect of bupivacaine infiltration and single dose intravenous dexamethasone on length of stay after ambulatory tonsillectomy

MJ Shikowitz, AA Jocono

Children's Hosp Q 1996;8(1):11–16

A retrospective study was performed on 145 pediatric patients between the ages of 1 and 12 years who underwent tonsillectomy at the Schneider Children's Hospital to determine if post-tonsillectomy peritonsillar fossa infiltration with bupivacaine and intravenous dexamethasone influence the length of hospital stay in an ambulatory care setting. The patients were divided into two groups, 81 receiving bupivacaine infiltration and 64 receiving no local anesthetic. In order to study the influence of a single intraoperative dose of intravenous dexamethasone on length of hospital stay, each group of patient was further divided into two groups: those who had received intravenous dexamethasone intraoperatively and those who had not. Of the 81 patients who received bupivacaine, 11 received dexamethasone as well. Of the 64 patients who did not get bupivacaine, seven received dexamethasone. The bupivacaine group was discharged an average of 2 h and 13 min earlier than those not receiving local anesthetic (6 h and 7 min vs. 8 h and 20 min, this difference was not statistically significant, $P = 0.12$). Additionally, the bupivacaine group only had two patients requiring a hospital stay over 1000 min (representing an overnight stay) because of poor oral intake vs. seven in those not receiving local infiltration (this difference was statistically significant, $P = 0.04$). There was no difference in time until discharge whether patients received dexamethasone without bupivacaine or neither dexamethasone nor bupivacaine. However, cases receiving both dexamethasone and bupivacaine were discharged an average of 4 h and 11 min earlier than those not receiving either. This was statistically significant ($P = 0.004$). The use of intraoperative dexamethasone, post-operative analgesia, and post-operative antiemetics did not confound the differences noted between the bupivacaine and non-bupivacaine group. In this study, the complication rates for post-operative hemorrhage, severe emesis, laryngospasm, and poor oral intake compared well with the literature on short stay outpatient tonsillectomies. Additional prospective studies are underway to establish the role that post-tonsillectomy peritonsillar infiltration of bupivacaine, single intraoperative IV dose of dexamethasone, or both may have in reducing ambulatory care hospital stay for pediatric patients. For today's changing healthcare environment a reduction of hospital stay by even a few hours can translate into hundreds of dollars per patient.

Prophylactic intravenous administration of caffeine and recovery after ambulatory surgical procedures

JG Weber, JT Klindwoeth, JJ Arnold, RR Danielson, DR Ereth

Mayo Clin Proc 1997;72(7):621–6

OBJECTIVE: To determine whether prophylactic intravenous administration of caffeine, to daily caffeine users, decreases the frequency of postoperative headache and shortens recovery time.
DESIGN: The study was a prospective, randomized, double-blind investigation with predetermined sample size and statistical power.
MATERIAL AND METHODS: After Mayo Institutional Review Board approval and informed consent were obtained, 300 adult ambulatory surgical patients were enrolled in this study, which included randomization to receive either placebo or caffeine (200 mg intravenously) in the postanesthesia care unit. While recuperating, patients were allowed their choice of postoperative beverages. Before dismissal, patients completed a questionnaire providing details about intake of caffeine and tobacco, history of headache, and demographic data. Patients were considered 'at risk' for symptoms of caffeine withdrawal if they did not drink a caffeinated beverage after the surgical procedure.
RESULTS: Completed questionnaires were obtained from 234 patients. Patients at risk for symptoms of caffeine withdrawal were less likely to have a postoperative headache if they received caffeine intravenously rather than placebo—10 vs. 23% ($P < 0.05$). Time until recovery was not significantly different between caffeine and placebo study groups.
CONCLUSION: We conclude that prophylactic intravenous administration of caffeine was beneficial for those patients at risk for symptoms of caffeine withdrawal. For patients who consume caffeinated bever-

ages on a daily basis, we recommend prophylactic administration of caffeine on the day of an ambulatory surgical procedure and anesthesia.

Midazolam as a pediatric premedicant in the ambulatory setting

BM Moline, RA Marley

J Perianesth Nursing 1997;12(1):42–7

In the preoperative setting, the nurse is responsible for the comprehensive evaluation and preparation of the patient. Among these activities, the administration of various premedications to achieve a physiological (e.g. raise gastric fluid pH) or psychological (e.g. reduce apprehension) effect is commonplace. Midazolam, a benzodiazepine, is one of the more popular medications used preoperatively for its anxiolytic properties. Several studies have evaluated the variety of routes by which midazolam can effectively be administered to the pediatric patient. A review of midazolam as a premedication specific to the pediatric population in the ambulatory setting is presented.

Safety of direct laryngoscopy as an outpatient procedure

M Armstrong Jr, LJ Mark, DS Snyder, SD Parker

Laryngoscope 1997;107(8):1060–5

The safety of outpatient direct laryngoscopy has recently been challenged in the literature. We reviewed the first 589 direct laryngoscopies performed at a new outpatient surgery center. There were nine unplanned admissions to the hospital, including five airway emergencies that developed within the first 30 min after extubation. Three patients required reintubation before leaving the operating room. On postoperative telephone follow-up, 9% complained of mild to moderate sore throat. There were no major complications after discharge. We conclude that the risk of airway emergencies after direct laryngoscopy is less than 1% in carefully selected patients. The procedure can be safely performed as an outpatient procedure as long as transportation to a hospital is readily available for the few patients in whom complications arise.

The risk of postoperative haemorrhage in tonsillectomy as an outpatient procedure in children

Y Rakover, R Almog, G Rosen

Int J Pediatr Otorhinolaryngol 1997;41(1):29–36

The safety of performing tonsillectomy as an outpatient procedure is still questionable. This study determined whether there was an increased risk of postoperative bleeding by performing tonsillectomy as an outpatient procedure. A 6 years' retrospective chart review was made of 363 children who underwent tonsillectomy. Out of 363 children, 43 had been selected as an inpatient group before the operation, 264 patients were discharged home 6 h after the operation and were the outpatient group, and 56 children had to be kept overnight because of complications that had occurred. We compared the haemorrhage rate in the outpatient and the inpatient groups. We found no increase in the postoperative haemorrhage rate in the outpatient group. No statistically significant correlations were found between the children's ages, indication for surgery, type of operation or intra-operative complications and the risk of postoperative haemorrhage. Only children who had haemorrhage in the recovery room were identified as a high risk subgroup for recurrent bleeding. On the basis of our findings we believe that tonsillectomy can be performed as an outpatient procedure regardless of age, indication for surgery, or type of procedure, as long as good recovery room supervision exists for 4–6 h.

Combination laser conization: early and late complications

ES Andersen, B Pedersen

J Gynecol Surg 1997;13(2)51–6

Early and late complications of combination laser conization were evaluated in 536 patients. Results of a questionnaire sent to 350 patients specifically evaluated menstrual bleeding and menstrual pain, fertility problems, and various aspects of sex life. Combination laser conization was a safe procedure, with no significant impact on fertility, sex life, or menstrual bleeding. Postconization bleeding was a significant event, but it seems possible to reduce this risk with increased surgical experience and optimum functioning of the laser equipment. Combination laser conization is a technique suitable to 1-day surgery or outpatient treatment.

Comparison of remifentanil and propofol as adjuncts to peripheral regional anesthesia for ambulatory surgery

M Mingus, M Rosenblatt, D Gainsburg, J Waller, M Gold, W Jenkins, C Bradford, JB Eisenkraft

Anesth Analges 1996;82(2)s:(xxx)

INTRODUCTION: Placement of peripheral nerve block for ambulatory surgery may be painful for the patient. Remifentanil (R), an esterase metabolized opioid, permits rapid titration of analgesia without sedation or delayed recovery. The purpose of this study was to compare the safety and efficacy of R to propofol (P) in providing analgesia for placement of peripheral nerve blocks
METHODS: Following IRB approval and written informed consent, this multicenter, randomized, open-label, controlled study enrolled 58 ASA PS I or II adult patients scheduled for outpatient hand or foot surgery under axillary or ankle block. Patients received no premedication and were randomly assigned to receive a continuous intravenous infusion of either R (initially 0.2 mcg/kg/min from 5 min prior to block until completion of block, then 0.1 mcg/kg/min), or P (initia1ly 100 mcg/kg/min from 5 min prior to block until completion of block, then 50 mcg/kg/min). Efficacy was measured by patient and investigator assessments of discomfort, analgesia, sedation, and anxiety. Safety was assessed by hemodynamic and respiratory monitoring. Efficacy parameters were analyzed by χ^2 and $P < 0.05$ was considered significant.
RESULTS: A table is presented. We found no difference in demographic data between the groups. Respiratory depression resolved within a median of 3-4 min of decreasing or discontinuing R.
DISCUSSION: Remifentanil, compared with P. significantly decreased the pain associated with regional block placement. Although well tolerated and less sedating, R was associated with decreased respiratory rate and increased nausea and anxiety.

A comparison of oral ketorolac and hydrocodone-acetaminophen for analgesia after ambulatory surgery: arthroscopy versus laparoscopic tubal ligation

PF White, GP Joshi, RL Carpenter, RJ Fragen

Anesth Analges 1997;85(1):37–43

This multicenter study compared the analgesic efficacy and side effects of ketorolac and hydrocodoneacetaminophen when administered orally after ambulatory arthroscopic or laparoscopic tubal ligation procedures. After awakening from general anesthesia, 252 patients experiencing moderate or severe postoperative pain were randomly assigned to receive one of three analgesic treatments according to a placebocontrolled, double-blind protocol. Group 1 ($n = 83$) received

oral ketorolac 10 mg every 6 h for up to 3 days, Group 2 ($n = 82$) received hydrocodone 7.5 mg plus acetaminophen 750 mg every 6 h for up to 3 days, and Group 3 ($n = 87$) received placebo capsules followed by ketorolac 10 mg every 6 h for up to 3 days. Severity of pain was recorded using a 4-point categorical score and visual analog scale (VAS) at 0.5 h and subsequently at hourly intervals for 6 h, as well as daily for up to 3 days. Pain relief was recorded using a 5-point categorical scale at the same time points. In the patients undergoing arthroscopic surgery, both ketorolac and hydromorphone-acetaminophen provided superior pain relief compared with the placebo. Although the categorical summed pain intensity difference (SPID), VAS SPID, and total pain relief scores were higher in the ketorolac group compared with the hydrocodoneacetaminophen group, the differences were not statistically significant. In the patients undergoing laparoscopic tubal ligation surgery, the three treatment groups displayed similar responses to the study medications. However, the ketorolac group scored higher in terms of overall tolerability than the hydrocodone-acetaminophen group. In conclusion, there was no difference in the efficacy between oral ketorolac and hydrocodone-acetaminophen combination in controlling pain after outpatient arthroscopic surgery procedures. Neither oral analgesic proved to be very effective after laparoscopic tubal ligation.

Neuromuscular effects, efficacy and safety of rocuronium versus atracurium in ambulatory anesthesia

DG Whalley, WG Maurer, AL Knapik, FG Estafanous

Anesthes Analges 1997;84(2)s:(xxx)

INTRODUCTION: Rocuronium has been introduced into practice as a rapid onset nondepolarizing muscle relaxant of intermediate duration with few side effects and stable hemodynamic variables. (1) Atracurium is used extensively in outpatient surgery because of its predictable recovery and cardiovascular stability at doses less than $2 \times$ ED95. (2) Our objective was to compare the neuromuscular effects, safety and efficacy of $2 \times$ ED95 rocuronium and atracurium in ambulatory surgery.
METHODS: With IRB approval and informed consent, 41 patients undergoing laparoscopic gynecological outpatient surgery were enrolled in a randomized, controlled, double-blinded study. After premedication with midazolam 1–2 mg, patients were anesthetized with propofol 1.8 mg/kg and alfentanil 9 μg/kg. Rocuronium 0.6 mg/kg (group R, $n = 20$) or atracurium 0.5 mg/kg (group A, $n = 21$) were given after a control recording of the mechanomyogram had been obtained. Anesthesia was maintained with N_2O/O_2, propofol and alfentanil, and the block reversed if the train-of-four ratio was $< 70\%$ (T1/T470) at the end of surgery. Intubation was attempted 60 s after injection of the muscle relaxant and graded 1–4. If intubation was unsuccessful, another attempt was made at 90 and 120 s. Onset time was defined as the time from injection of the relaxant to peak depression of T1, and clinical duration as the time from injection to return of T1 to 25% of control. Adverse events including histamine related symptoms (erythema and bronchospasm) were noted. Data were compared using Student's t-test, Wilcoxon's test or Fisher's exact test.
RESULTS: The patients were ASA Class 1 or 2 and were demographically similar in both groups. All patients in group R were intubated in less than 90 s from injection of the relaxant, in contrast to only 14 patients in group A. Intubating conditions were rated good to excellent (grades 3 and 4) in 18 patients in group R and 20 patients in group A ($P = 0.6$). T1 was ablated in both groups, but in group R the onset time was shorter (59 vs. 99 s, $P < 0.001$), as was the clinical duration (33 vs. 45 min, $P < 0.001$). There were more patients in group A reporting adverse events than in group R (6 vs. 3, $P = 0.454$), but none of the events were severe. The most common adverse event was nausea and vomiting (group R, 1 patient; group A, 3 patients). Flushing was observed in one patient in group A. Surgery was of sufficient duration in ten patients in group R and six patients in group A for us to observe spontaneous recovery. The mean time from injection of relaxant to T1/T470 was similar in both groups (group R, 53 min; group A, 59 min; $P = 0.139$), whereas the recovery index was slightly longer in group R (10 vs. 8 min in group A, $P = 0.023$).
DISCUSSION: We have demonstrated that in patients undergoing ambulatory anesthesia for laparoscopic gynecological surgery, rocuronium was associated with a quicker onset and shorter clinical duration than an equipotent dose of atracurium. The quicker onset of rocuronium facilitates a more rapid, smoother intubation and the shorter clinical duration ensures a more predictable response to reversal drugs. The time to spontaneous recovery to T1/T470 was, however, similar for the two muscle relaxants. We observed a higher incidence of adverse events with atracurium.

A comparison of nausea and vomiting after ondansetron premedication with either propofol or desflurane following tubal ligation

G Arndt, S Springman, M McSweeney

Anesth Analges 1997;84(2)s (xxx)

INTRODUCTION: Nausea and vomiting are common following tubal ligation (TL). Ondansetron is a serotonin type 3 antagonist antiemetic. This study compares the incidence of nausea and vomiting following the prophylactic administration of ondansetron using two different anesthetic techniques, intravenous (IV) propofol or desflurane anesthesia.
METHODS: Following IRB approval, 66 ASA 1 or 2 patients requiring TL were enrolled at the University of Wisconsin Outpatient Surgery Clinics. All were medicated with ondansetron, 4 mg IV, following induction. Anesthesia was randomly assigned and maintained with either IV propofol, $n = 33$ or desflurane, $n = 33$ both with nitrous oxide. All were premedicated with alfentanil 15 μg/kg IV and midazolam 0.03 mg/kg IV, paralyzed with atracurium and received ketorolac 60 mg intramuscularly. The propofol group was induced with propofol and the desflurane group with methohexital. The incisions were infiltrated with bupivacaine 0.25%. Postoperative pain was treated with hydromorphone IV. The incidence of nausea and vomiting are reported in Table 1 for the first 60 post-anesthetic minutes. A table is presented. Both the patients and the post-anesthesia nurses were blinded to the anesthetic. All data was analyzed using Microsoft Excel. Statistical comparisons were made using the χ^2 test with P values of < 0.05 being considered significant.
DISCUSSION: Ondansetron with propofol has a significantly lower incidence of nausea at 60 min compared to ondansetron with desflurane. The incidence of nausea following ondansetron antiemetic premedication is affected by the anesthetic technique. The incidence of vomiting is not. Intergroup hydromorphone requirements were not significant.

Recovery and reasons for discharge delay after remifentanil vs. Alfentanil in outpatient surgery

F Chung, EP Skinner, BD Jamerson, PR Reese

Anesth Analges 1996;82(2)s:(xxx)

INTRODUCTION: Remifentanil (Remi) is an esterase metabolized, μ-specific opioid receptor agonist with a rapid elimination half life (T(1/4) $\sim = 10$ min). (1) The objective of the study was to compare the recovery of Propofol (Prop)/Remi vs. Prop/Alfentanil (Alf) TIVA in outpatients.
METHODS: IRB-approval was obtained at seven institutions, written informed consent was obtained from 200 patients adult male or

female patients, ASA I-III, scheduled for >30 min laparoscopic outpatient procedures. Patients received 1 mg midazolam premedicant and were randomized (double-blind) 2:1 to either Remi or Alf. Induction was with Prop and maintenance included Prop 75 mcg/kg/min. Remi 0.25 mcg/kg/min or Alf 1.0 mcg/kg/min. Alf was stopped 10 min before the end of surged, Prop was stopped 5 min before end of surgery and Remi was stopped at end of surgery. Protocol defined recovery criteria included Phase 1-pain, nausea, and vomiting controlled; Phase 2-Postanesthesia Discharge Score (PADS)2 $<=9$. A 24-h phone interview assessed functional status and patient satisfaction.
RESULTS: Phase 1: Remi patients qualified later than Alf patients for Phase 1 discharge primarily due to pain onset. More Remi patients (76%) required fentanyl than Alf patients (35%). Actual Phase 1 discharge times were similar. The majority of patients were delayed >15 min from Phase 1 unit discharge (50%-Remi; 73%-Alf). Reasons for delay are shown. A table is presented. Phase 2: Upon Phase 2 entry the median PADS score was similar. The majority of patients were delayed >30 min after discharge criteria was met (86%-Remi; 88%-Alf). Reasons for delay are shown. A table is presented. In those with discharge delay, nausea/vomiting was significantly higher in the Alf group compared to the Remi group. The 24-h phone interview showed more Remi patients reported no difficulties in their ability to concentrate (73%-Remi; 60%-Alf $P<0.05$). A similar number of patients in both groups reported being satisfied with their anesthetic drug experience in the surgical center.
CONCLUSIONS: In both groups transportation accounted for the majority of delay in Phase 1 and 2. The differences in nausea/vomiting incidence may have accounted for the difference in time to qualify for Phase 2 discharge and actual Phase 2 discharge between the Remi and Alf groups. Use of predictable, short acting agents like Remi may allow the hospital to reliably schedule transportation needs and discharge patients when qualified to leave the surgical center.

Development of day case cataract surgery: a literature review

JM Cooper

Brit J Nursing 1996;5(21):1327–33

There is increasing demand for day case cataract surgery. This review looks at the varying criteria for suitable patients and compares the use of local or general anaesthesia for day surgery. Preassessment clinics and the possible limitations of patient transport are discussed. Length of stay in the day unit, nurse involvement and discharge procedures are examined. Postoperative visits are reviewed. Studies show that the clinical outcome is not affected by outpatient surgery and that patients report a high level of satisfaction with their day care. Day case cataract surgery is safe and cost-effective and increased patient demand will become a significant factor favouring day case surgery in the future. Further research into patients' attitudes to the continuity of nursing care from preoperative assessment, through surgery to discharge, and whether this plays a part in their overall satisfaction, is recommended.

Dreams, images and emotions associated with propofol anaesthesia

B Brandner, M Blagrove, G McCallum, LM Bromley

Anaesthesia 1997;52(8):750–5

A total of 112 patients scheduled for day case varicose vein surgery were randomly allocated to one of three groups: total intravenous anaesthesia with propofol, propofol induction followed by inhalational anaesthesia with nitrous oxide and isoflurane or thiopentone induction followed by inhalational anaesthesia with nitrous oxide and isoflurane. Assessments were made in the recovery room of the incidence of dreaming, the content of the dreams and the emotional status of the patients. The groups differed significantly in reporting that they had been dreaming: patients who underwent total intravenous anaesthesia reported the most dreaming and patients who received thiopentone the least. However, despite the large number of case reports of sexual imagery following propofol anaesthesia and despite the two groups who had received propofol experiencing significantly greater happiness upon recovery than the thiopentone group, there were no appreciable differences in the sexual content of the dreams. Each group had only a small number of dreams even remotely related to sex.

A comparison of the nasal mask and the nasopharyngeal airway in paediatric chair dental anaesthesia

ONT Bagshaw, R Southee, K Ruiz

Anaesthesia 1997;52(8):786–9

This study compared the quality of anaesthesia and surgical access afforded by two techniques for the administration of anaesthesia during paediatric chair dental procedures. A total of 50 ASA 1 paediatric day case patients were randomly assigned to receive anaesthesia through either the traditional Goldman nasal mask or through a nasopharyngeal airway. Patients in the nasal mask group were judged to have significantly worse airway patency ($P=0.0001$) and significantly more episodes of airway obstruction (14 vs. 4; $P=0.0032$) than those in the nasopharygeal airway group. Anaesthetic, surgical and oxygen saturation data did not differ significantly between the two groups. Operating conditions were universally graded as excellent in the nasopharyngeal airway group, while those in the nasal mask group were graded as excellent/good in only 79% of cases ($P<0.0001$). These results suggest that better quality anaesthesia and operating conditions can be achieved by using a nasopharyngeal airway rather than the traditional nasal mask for the administration of anaesthesia to paediatric chair dental patients.

Five years experience with day plastic surgery

A Berg, B Palmer

Eur J Plast Surg 1997;20(4):202–4

Day surgery is increasing. This article reviews the experiences of day plastic surgery during a period of 5 years. The evaluation shows a low rate of postoperative complications and a high degree of patient satisfaction. According to the author's opinion a considerable part of elective plastic surgery is suitable for day surgery.

Prolonged surgery increases the likelihood of admission of scheduled ambulatory surgery patients

ML Mingus, CA Bodian, CN Bradford, JB Eisenkraft

J Clin Anesth 1997;9(6):446–50

STUDY OBJECTIVE: To identify variables influencing the likelihood of unanticipated admission following scheduled ambulatory surgery.
DESIGN: Retrospective case-controlled chart review study. *Setting:* A large academic tertiary care hospital.
PATIENTS: 8549 ASA physical status I, II, III, and IV patients who underwent scheduled ambulatory surgery in 1991.
MEASUREMENTS AND MAIN RESULTS: Of the 8549 patients, 216 were admitted, with complete medical record information available for 167 of the admitted patients. The most common reasons for admission among the 167 were surgical (43%), anesthetic (28%), and

medical (17%) complications. Odds for admission following long surgery (of at least 60 min) were 7.5 times ($P < 0.001$) greater than following short surgery (under 60 min). Among long cases, independent variables influencing admission were: general anesthesia (odds ratio 20.8; 95% confidence interval (CI) 4.4–45.6), and monitored anesthesia care or regional anesthesia (combined odds ratio 8.3; 95% CI 1.7–40.8). ASA physical status and patient age did not significantly influence admission rate for long cases. For short cases, patients over 65 years (odds ratio 5.6; 95% CI 2.6–12.0), ASA physical status III or IV (odds ratio 4.8; 95% CI 2.0–11.6), use of general anesthesia (odds ratio 4.7; 95% CI 1.5–14.2), and monitored anesthesia care or regional anesthesia (odds ratio 3.1; 95% CI 1.0–10.1) independently influenced the likelihood of admission. Type of surgery and gender had no detectable effect on admission.
CONCLUSIONS: Surgery duration of 60 min or longer was the most important predictor of unanticipated admission following scheduled ambulatory surgery.

Desire for perioperative information in adult patients: a cross-sectional study

ZN Kain, B Kosarussavadi, A Hernandez-Conte, MB Hofstadter, LC Mayes

J Clin Anesth 1997;9(6):467–72

STUDY OBJECTIVE: To identify which perioperative information outpatients want from their anesthesiologist.
DESIGN: Cross-sectional study.
SETTING: Outpatient center.
PATIENTS: 197 ASA physical status I and II patients undergoing outpatient surgery. Interventions: A questionnaire examining for 'desire for information.'
MEASUREMENTS AND MAIN RESULTS: Demographic data including age, ethnicity, gender, socioeconomic status, and history of previous surgery were obtained. Trait, situational anxiety, and coping strategy were assessed using a validated behavioral instrument and a questionnaire adopted from previous studies conducted in Australia, Scotland, and Canada. Each questionnaire contained 14 statements regarding specific perioperative details. An index of the overall patient desire for information (PDI) was calculated for each subject. More than 85% of subjects gave a high priority to being informed for all the 14 items. Scores on the overall index were found to be higher for females than for males (32 ± 6 vs. 30 ± 6; $P = 0.03$), and this finding persisted in a multivariable model that also included coping strategies and anxiety ($df = 1175$, $F = 4.6$, $P = 0.01$). Subjects also had higher PDI scores if a first degree relative had a history of previous surgery (33 ± 5 vs. 31 ± 6; $P = 0.007$). On analysis of individual questionnaire items, Latino Americans were significantly less likely than European Americans or African Americans to desire perioperative information ($P < 0.05$). Similarly, females had a significantly higher desire for information than males. Subjects who were divorced demonstrated a higher desire for information than did single or married subjects.
CONCLUSIONS: Ethnicity, gender, coping mechanism, marital status, and a history of previous surgery in a relative have been identified as predictors for the desire for information.

Prophylactic intravenous ondansetron in patients undergoing cataractextraction under general anesthesia

FJ Ascaso, I Ayala, P Carbonell, FJ Castro, A Palomar

Ophthalmologica 1997;211(5):292–5

During the past decade the demand for outpatient surgery has grown rapidly. Postoperative nausea and vomiting is one of the more common undesirable consequences of surgery, which may significantly delay the patient's discharge from the ambulatory surgery center. None of the currently used antiemetic drugs is considered totally effective in abolishing nausea or vomiting. The purpose of this study was to compare the efficacy of ondansetron, a highly selective 5-hydroxytryptamine subtype-3 receptor antagonist, with that of metoclopramide for the prevention of postoperative emesis in patients undergoing cataract surgery. The incidence of postoperative nausea was significantly less in the ondansetron group than that in the metoclopramide group ($P = 0.046$). Although the incidence of vomiting was clinically less frequent in the ondansetron group, there were no significant differences between both treatment groups. To our knowledge, this is the first study to demonstrate that ondansetron is effective to prevent postoperative emesis after extracapsular cataract extraction.

Ambulatory narrow excision for thin melanoma (≤ 2 mm): results of a prospective study

A Bono, C Bartoli, C Clemente, I Del Prato, P Boracchi, N Rossi, N Cascinelli

Eur J Cancer Part A 1997;33(8):1330–2

Although narrow surgical excision may be sufficient for thin melanoma, questions remain concerning how narrow the excision should be and how it should be related to tumour thickness. To address these issues, a group of 168 consecutive patients with primary invasive melanoma up to 2 mm thick underwent ambulatory surgery with excision margins of 1 cm. Of these patients, 40 (24%) had lesions thicker than 1 mm. In a median follow-up of 5 years, 11 patients relapsed and 3 developed second malignancies. The crude cumulative incidence of regional and distant metastases were, respectively, 5.6 and 1.5%. No local isolated recurrence was observed, indicating that ambulatory narrow excision is justified for melanoma up to 2 mm thick.

Treatment of enchodromas of the hand with bone substitute. Preliminary report of five cases

P Jacoulet, P Faure

J Hand Surg 1997; 22B(4):476–8

We report five patients with enchondromas of long bones in the hand. They were successfully treated by curettage and implantation of a biodegradable bone substitute (calcium phosphate). Bone regained normal X-ray appearance by 9 months. The full range of motion and normal function of the hand were restored. There were no complications and no recurrence at follow-up visits 28 months after operation. There are several advantages to this technique. The operative procedure may be performed under local anaesthesia on an out-patient basis and the operative time is shortened. Complications of a cancellous bone donor site are avoided, as are the potential infectious complications of allogenic bone implantation.

A comparison of ketorolac to other modalities for pain relief after inguinal herniorrhaphy in children

AC Poinier, LE Jacobson, J Geiduschek, HW Karl, SS Sasaki

J Invest Med 1996;44(1):150A

Ketorolac tromethamine, a non-steroidal anti-inflammatory drug, when administered intramuscularly to children intraoperatively, has been shown to reduce the requirement for post-operative narcotics

and shorten the length of a child's day surgery stay following tonsillectomy. A retrospective chart study in 1992 suggested that i.v. ketorolac administered intraoperatively was a superior modality to local anesthetic block for post-operative analgesia in children having outpatient inguinal hernia or hydrocele repair. Studying inguinal herniorrhaphy and hydrocelectomy patients aged 18 months to 12 years, we attempted to determine if i.v. ketorolac, given prior to incision, would reduce the requirement for post-operative narcotics and shorten the length of children's day surgery stay. The double-blind, randomized study included four groups: Group I: Caudal. 0.25% bupivacaine with epinephrine 1:200 k, 0.75 ml/kg, maximum 20 ml. Group II: Local block by surgeon. 0.25% bupivacaine with epinephrine 1:200 k, maximum 1 ml/kg. Group III: Ketorolac 1 mg/kg IV, prior to incision. Group IV: Ketorolac 1 mg/kg IV and local block by surgeon as described above in Group II. Following surgery, a blinded observer in the recovery room assigned pain scores and recorded other data, including analgesic requirements, length of Phase I and Phase II recovery stays, and the occurrence of nausea or vomiting. Patients having pain were given morphine 0.03 mg/kg q 5 min until comfortable. Emesis was treated with 0.15 mg/kg metaclopramide. Thus far results have shown that caudal blockade subjects have had the least post-operative morphine requirement. The subjects who have received ketorolac have had the shortest recovery room stays, which has important implications in controlling hospital costs. Parents of the subjects in the ketorolac group have also expressed the highest degree of satisfaction with their children's anesthesia care.

Administration of medroxyprogesterone acetate after endomyometrial resection

H Maia Jr, LC Calmon, D Marques, EM Coutinho

J Am Assoc Gynecol Laparoscopists 1997;4(2):195–200

STUDY OBJECTIVE: To assess the efficacy of endometrial resection for treatment of menorrhagia in women to whom no preoperative agent was given to prepare the endometrium.
DESIGN: Retrospective analysis of patients' records for all endometrial resections in which medroxyprogesterone acetate was used postoperatively. *Setting:* Hospital day surgery unit.
PATIENTS: A total of 70 patients with menorrhagia.
INTERVENTIONS: The women underwent transvaginal sonography, followed by hysteroscopy and endometrial biopsy. The endometrium was removed using the 27F resectoscope followed by coagulation with the rollerball. Medroxyprogesterone acetate was prescribed for 2 months after surgery.
MEASUREMENTS AND MAIN RESULTS: All women achieved a reduction in menstrual flow and 50% reported amenorrhea after endometrial resection. In only two was hysterectomy necessary due to recurrence of menorrhagia.
CONCLUSION: Preoperative endometrial preparation was unnecessary when endometrial resection was carried out for treatment of menorrhagia. However, the patients received medroxyprogesterone acetate postoperatively.

The current status of caudal epidural nerve block in contemporary practice

SD Waldman

Pain Dig 1997;7(4):187–93

Caudal epidural nerve block is a simple, safe, acid effective technique that is useful in a variety of surgical anesthetic applications. It is especially useful for outpatient surgery and in the pediatric population. The ability to perform caudal epidural nerve block in the presence of anticoagulation or coagulopathy is unique among the major neuroaxial regional anesthesia techniques. The utility of caudal epidural analgesia in the management of a variety of acute, chronic, and cancer-related pain syndromes-coupled with its safety and ease of performance-makes this technique an excellent addition to the armamentarium of the pain management specialist.

Symposium on ambulatory surgery: principles, practice, pitfalls

JK MacFarlane

Can J Surg 1997;40(4):259–63

Overnight-stay parathyroid surgery has proved to be safe and effective. The risk to the patient has been extremely small, the results of the surgery have been unchanged from inpatient surgery and patient compliance has been very good, with a high level of acceptance.

Establishing outpatient cholecystectomy as a hospital routine

AJ Voitk

Can J Surg 1997;40(4):284–8

OBJECTIVE: To determine the rate of outpatient cholecystectomies done voluntarily by surgeons and to identify any 'correctable' factors leading to hospital admission, also to reassess the outpatient cholecystectomy rate after correcting the identified factors.
DESIGN: A prospective analysis.
SETTING: A 256-bed non-teaching acute-care community hospital on the outskirts of a major urban centre, served by four general surgeons.
PATIENTS: All 515 patients booked for elective cholecystectomy at the hospital between April 1, 1994, and March 31, 1996, inclusive. *Intervention:* Elective outpatient cholecystectomy.
MAIN OUTCOME MEASURE: A successful procedure without compromise of safety.
RESULTS: In the preliminary study, outpatient cholecystectomy was done in 75% of the patients. Variations in individual surgical practice, preoperative patient selection and inappropriate day surgery facilities were thought to be correctable factors leading to admission. After correction of the these factors (follow-up study), the rate of outpatient cholecystectomy rose to 95% ($P < 0.001$). Variations in individual surgical practice disappeared, and no patient required processing through inappropriate day surgery facilities. No patient suffered untoward effects from outpatient management.
CONCLUSIONS: Outpatient cholecystectomy is a safe hospital routine for all elective procedures without selection. Voluntary acceptance of this routine leads to an initial 75% outpatient rate. Identifying and correcting modifiable factors led to a significant increase in the institutional outpatient rate, comparable to reported individual rates.

Ultrasonic surgical aspiration to treat genital Condyloma acuminata in children

YR Smith, C Isacson, AB Namnoum

J Pediatr Adolesc Gynecol 1997;9(3):145–7

We report on the technique of ultrasonic surgical aspiration for the treatment of genital condyloma acuminata in three prepubertal girls. All surgical procedures were done under general anesthesia, and no patient required hospitalization. Adequate samples for pathologic evaluation were obtained. This technique resulted in minimal discomfort, rapid healing, and no scarring.

Single-dose ondansetron prevents postoperative vomiting in pediatric outpatients

RI Patel, PJ Davis, RJ Orr, IR Ferrari, S Rimar, RS Hannallah, IT Cohen, K Colingo, JV Donlon, CM Haberkern, FX McGowan, BA Prillaman, TV Parasuraman, MR Creed

Anesth Analges 1997;85(3):538–45

This randomized, double-blind, parallel-group, multicenter study evaluated the safety and efficacy of ondansetron (0.1 mg/kg to 4 mg intravenously) compared with placebo in the prevention of postoperative vomiting in 429 ASA status I-III children 1–12 years old undergoing outpatient surgery under nitrous oxide- and halothane-based general anesthesia. The results show that during both the 2- and the 24-h evaluation periods after discontinuation of nitrous oxide, a significantly greater percentage of ondansetron-treated patients (2 h 89%, 24 h 68%) compared with placebo- treated patients (2 h 71%, 24 h 40%) experienced complete response (i.e., no emetic episodes, not rescued, and not withdrawn; $P < 0.001$ at both time points). Ondansetron-treated patients reached criteria for home readiness 30 min sooner than placebo-treated patients ($P < 0.05$). The age of the child, use of intraoperative opioids type of surgery, and requirement to tolerate fluids before discharge may also have affected the incidence of postoperative emesis during the 0–24-h observation period. Use of postoperative opioids did not have any effect on complete response rates in this patient population. We conclude that the prophylactic use of ondansetron reduces postoperative emesis in pediatric patients, regardless of the operant influential factors. Implications: Postoperative nausea and vomiting often occur after surgery and general anesthesia in children and are the major reason for unexpected hospital admission after ambulatory surgery. Our study demonstrates that the prophylactic use of a small dose of one ansetron reduces postoperative vomiting in pediatric patients.

Treatment of postoperative nausea and vomiting with single intravenous doses of dolasetron mesylate: a multicenter trial

AL Kovac, PE Scuderi, TF Boerner, JE Chelly, ME Goldberg, CB Hantler, WF Hahne, RA Brown

Anesth Analges 1997;85(3):546–52

This study was conducted to determine the efficacy and safety of four intravenous (IV) doses of dolasetron, an investigational 5-HT3 receptor antagonist, for the treatment of postoperative nausea and/or vomiting (PONV) after outpatient surgery under general anesthesia. This multicenter, randomized, double-blind trial compared the antiemetic efficacy of 12.5, 25, 50, or 100 mg IV dolasetron with placebo over 24 h using complete response (no emetic episodes and no rescue medication), time to first emetic episode or rescue medication, and patient nausea and satisfaction with antiemetic therapy as rated by visual analog scale (VAS). Of 1557 patients enrolled, 620 patients were eligible for treatment. Complete response rates for all dolasetron doses-12.5 mg (35%), 25 mg (28%), 50 mg (29%), and 100 mg (29%)- were significantly more effective than placebo (11%, $P < 0.05$). There was a significant gender interaction for complete response ($P < 0.01$). Of the patients in the 25- and 100-mg dose groups, 12 and 13%, respectively, experienced no nausea (VAS score < 5 mm) versus 5% in the placebo group ($P < 0.05$). There were no clinically relevant changes in vital signs or laboratory values and no trends with dose for adverse events. Dolasetron is effective for treating PONV and has an adverse event profile similar to that of placebo. The 12.5-mg dose was as effective as larger doses for complete response. Implications: Nausea and vomiting are common problems for postsurgical patients. In this study of 620 patients undergoing surgery, a 12.5-mg dose of intravenous dolasetron, a new serotonin-receptor blocker, was significantly more effective than placebo in treating established postoperative nausea and vomiting. Dolasetron 12.5 mg was as safe as placebo.

Intrathecal fentanyl with small-dose dilute bupivacaine: better anesthesia without prolonging recovery

B Ben-David, E Solomon, H Levin, H Admoni, Z Goldik

Anesth Analges 1997;85(3):560–5

Recent concern regarding lidocaine neurotoxicity has prompted efforts to find alternatives to lidocaine spinal anesthesia. Small-dose dilute bupivacaine spinal anesthesia yields a comparably rapid recovery profile but may provide insufficient anesthesia. By exploiting the synergism between intrathecal opioids and local anesthetics, it may be possible to augment the spinal anesthesia without prolonging recovery. Patients (50) undergoing ambulatory surgical arthroscopy were randomized into two groups receiving spinal anesthesia with 3 ml 0.17% bupivacaine in 2.66% dextrose without (Group I) or with (Group II) the addition of 10 μg fentanyl. Median block levels reached T7 and T8, respectively ($P =$ NS). Mean times to two-segment regression, S2 regression, time out of bed, time to urination, and time to discharge were 53 vs. 67 min ($P < 0.01$), 120 vs. 146 min ($P < 0.05$), 146 vs. 163 min ($P =$ NS), 169 vs. 177 mm ($P =$ NS, and 187 vs. 195 min ($P =$ NS) respectively. Motor blockade was similar between groups, but sensory blockade was significantly more intense in Group II ($P < 0.01$). Six of 25 blocks failed in Group I, whereas none failed in Group II. The addition of 10 μg fentanyl to spinal anesthesia with dilute small-dose bupivacaine intensifies and increases the duration of sensory blockade without increasing the intensity of motor blockade on prolonging recovery to micturition or street fitness. Implications: Concerns about the neurotoxicity of lidocaine have prompted efforts to find alternatives to lidocaine spinal anesthesia. We studied 50 patients undergoing ambulatory surgical arthroscopy and found that although small-dose bupivacaine alone is inadequate for this procedure, the addition of fentanyl makes it reliable.

Use of the laryngeal mask airway as an alternative to the tracheal tube during ambulatory anesthesia

GP Joshi, Y Inagaki, PF White, L Taylor-Kennedy, LI Wat, C Gevirtz, JM McCraney, DA McCulloch

Anesth Analges 1997;85(3):573–7

We designed a prospective, randomized, multicenter study to compare anesthetic requirements, recovery times, and postoperative side effects when a laryngeal mask airway (LMA) was used as an alternative to the tracheal tube (TT) during ambulatory anesthesia. After induction of anesthesia with midazolam 2 mg, fentanyl 1 μg/kg, and propofol 2 mg/kg, 381 patients were randomly assigned to receive either an LMA ($n = 207$) or TT ($n = 174$) for airway management. In patients assigned to the TT group, succinyl-choline 1 mg/kg or a nondepolarizing muscle relaxant was administered to facilitate tracheal intubation. Anesthesia was maintained with volatile anesthetics in combination with nitrous oxide 60% and oxygen. The average time to placement of the two airway devices (5 min) and the failure rates (1%) were similar in the two groups. Although there was a significant decrease in the intraoperative fentanyl requirement in the LMA group, the difference was of little clinical significance. Furthermore, there were no differences in the volatile anesthetic requirements. The time from end of surgery to removal of the airway device (5 min) was also similar in the two study groups. Although duration of the postanesthesia care unit stay and time to ambulation were significantly shorter in the LMA group, there were no differences in the

times to 'home readiness'. The incidence of nausea and vomiting and the need for rescue antiemetic treatments in the postoperative period were similar in the two airway management groups. However, the incidence of postoperative sore throat was significantly greater in patients receiving the TT (versus the LMA). In conclusion, this study suggests that the LMA is a useful alternative to the TT for airway management during ambulatory anesthesia. Implications: Use of the laryngeal mask airway can obviate the need for insertion of a tracheal tube for many ambulatory surgery procedures, and thereby decrease the incidence of postoperative sore throats.

A comparison of light wand and suspension laryngoscopic intubation techniques in outpatients

PG Friedman, MK Rosenberg, M Lebenbom-Mansour

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Endotracheal intubation can produce postoperative sore throat and hoarseness, as well as changes in cardiovascular variables. A major goal of ambulatory surgery is the prompt return of patients to their daily activities. Postoperative sore throat may impede this and may decrease patient satisfaction with their anesthetic and surgical experience. We conducted a prospective, randomized study in 40 outpatients having lower extremity arthroscopies to compare the effects of direct laryngoscopy and light wand intubation on cardiovascular changes, sore throat, hoarseness, and dysphagia. Subjects were randomly assigned to either Group A (endotracheal intubation by rigid laryngoscopy) or Group B (endotracheal intubation with a light wand). A standardized anesthetic technique was used. Heart rate and blood pressure were recorded before induction, after induction but before endotracheal intubation, and at 1-min intervals for the first 5 min after intubation. At 16–24 h postoperatively, the incidence and severity of sore throat, hoarseness, and dysphagia was assessed by a follow- up phone call. This study demonstrated no clinically significant difference in cardiovascular variables between the two techniques. Patients had a significantly lower incidence and severity of sore throat, hoarseness, and dysphagia when a light wand was used for intubation. In conclusion, this study suggests that light wand intubation may decrease the incidence and severity of postoperative sore throat, hoarseness, and dysphagia, thereby potentially increasing satisfaction in ambulatory surgical patients. Implications: This prospective, randomized study found that the incidence and severity of postoperative sore throat, hoarseness, and difficulty in swallowing among ambulatory surgical patients is more frequent when they are endotracheally intubated with a rigid laryngoscope than with a light wand. The authors, therefore, recommend more frequent use of the light wand for endotracheal intubation.

Caudal anesthesia and urinary retention in ambulatory surgery [4]

ALS Pappas, R Sukhani, D Hatch

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Reduction mammaplasty: an outcome study

PL Schnur, DP Schnur, PM Petty, TJ Hanson, AL Weaver

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Outcome studies of the value of reduction mammaplasties have only recently appeared in the literature. Medical directors of insurance companies and managed care plans have been reluctant to pay for reduction mammaplasties, citing the uncertainty of the medical necessity of the procedure. They have defended their position by stating that the medical literature is devoid of studies documenting that reduction mammaplasty is medically beneficial to the patient. For this reason, reduction mammaplasty is often excluded from health care benefit plans. Because of the need for outcome studies for this procedure, the charts of 363 consecutive patients who had reduction mammaplasty at the Mayo Clinic from January of 1986 to December of 1993 were reviewed. Questionnaires were sent to all these patients asking them to evaluate their outcome, and 328 responded (90.4% response rate). Of the respondents, 94.2% believed that the procedure was completely or very successful, and only 1.5% believed that it was not very successful or completely unsuccessful. The symptoms most frequently reported by patients preoperatively were as follows: uncomfortable feeling about their body, 97%: inability to find clothes that fit, 95.7 percent; pain in brastrap groove, 92.4%; shoulder pain, 86%, inability to run, 79.3%; upper back pain, 79%; inability co participate in sports, 77.4% ; neck pain, 70.7%; lower back pain, 64.0%; and intertrigo, 61%. The symptoms least frequently reported by patients preoperatively were as follows: pain or numbness in the hands, 22.6%; headaches, 30.2% arm pain 35.4%; and breast pain, 58.2%. These symptoms were either relieved or partially relieved in 88% or more of the patients. Of the 328 patients, 97.3% responded that they definitely or probably would have the procedure again, and only 1.2% definitely or probably would not have the operation again. Evaluation of medical treatment used to relieve symptoms showed a marked decrease in the need for such measures after reduction mammaplasty. Study of the charges for the procedure revealed that the setting of practice parameters for the procedure and the use of an ambulatory surgery center significantly decreased the charges for the procedure. This outcome study supports the hypothesis that reduction mammaplasty is an effective procedure and the treatment of choice for symptomatic mammary hyperplasia.

Capnography and ventilatory assessment during ambulatory dentoalveolar surgery

J Bennett, T Petersen, JA Burleson, JB Dembo

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PURPOSE: The purpose of this study was to determine whether capnography is a more sensitive monitor than auscultation of breath sounds in detecting ventilator/changes consistent with hypoventilation, obstruction, or apnea and in detecting ventilatory changes that can be associated with oxygen desaturation.
PATIENTS AND METHODS: 55 patients received intravenous agents and supplemental oxygen to achieve a state of deep sedation or general anesthesia for removal of impacted third molars. The surgeon/anesthetist monitored respiratory status using a pretracheal stethoscope and direct observation. A blinded observer with no access to the patient or anesthetist monitored respirator/ status using capnography. A second observer monitored all respiratory parameters to allow for correlation between clinical and electronic monitors.
RESULTS: Ventilatory status was continuously represented by capnography. The Pearson correlation coefficient showed a positive correlation between increased end-tidal CO_2 ($P(ET)CO_2$) and decreased oxygen saturation that be-came stronger with greater positive changes in $P(ET)CO_2$. An additive relationship was found between $P(ET)CO_2$ and respiratory rate (RR), with increased $P(ET)CO_2$ and decreased RR contributing to decreased oxygen saturation.
CONCLUSIONS: Patients with nasal ventilatory exchange maintain this exchange throughout the anesthesia so that sampling of nasal $P(ET)CO_2$ is an effective way to monitor ventilatory status. Respiratory depression or obstructive ventilatory changes detected by capnography showed a high sensitivity and low positive predictive value in detecting oxygen desaturation. The current technology does not show a clinically satisfactory correlation between $P(ET)CO_2$ and oxygen saturation. However, a combined increase in $P(ET)CO_2$ and decrease in RR suggested a trend of decreasing oxygen saturation.

The holmium YAG laser in office based arthroscopy of the knee: comparison with standard interventional instruments in patients with arthritis

N Wei

J Rheumatol 1997;24(9)1806–1808

OBJECTIVE: To confirm the feasibility of laser assisted technology in an office based rheumatology practice and to compare selected outcome variables with those of conventional arthroscopic cutting tools.
METHODS: A prospective analysis of 70 office based arthroscopies on 70 patients with knee arthritis over an 8-month period. All patients met specific criteria for office based arthroscopy; 36 patients had interventions with conventional cutting tools and 34 patients had interventions with a 40 watt holmium YAG laser. Variables assessed included procedure time, length of recuperative period, and postprocedural pain.
RESULTS: Laser assisted arthroscopy was performed in 34 cases without side effects or complications. Patients who received laser treatment had a shorter recuperative period, less postprocedural pain, and fewer hemarthroses than patients geared with conventional methods.
CONCLUSION: While recognizing the shortcomings and possible complications associated with laser surgery, we conclude that laser use in an office setting is not only feasible but may in the future be an excellent method for office based arthroscopic treatment of the arthritic knee.

Evaluation of morphine versus fentanyl for postoperative analgesia afterambulatory surgical procedures

AR Claxton, G McGuire, F Chung, C Cruise

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Adequate postoperative analgesia without side effects is necessary to facilitate same-day discharge of ambulatory patients after ambulatory surgery. This study compared the use of intravenous morphine and fentanyl after painful ambulatory procedures with respect to analgesic efficacy, the incidence of side effects, and impact on the patient's readiness for discharge. Patients (58) undergoing ambulatory surgery were prospectively randomized to receive morphine or fentanyl for postoperative analgesia and studied in double-blind fashion. The drugs were administered in equipotent doses in the postanesthesia care unit (PACU) and were titrated against pain scores until a visual analog score < 40 mm was achieved and the patient was satisfied with the level of analgesia. In the ambulatory surgical unit, oral analgesia was available. Pain scores, amount of analgesia used, the incidence of side-effects (nausea and vomiting, sedation and dizziness), the times to achieve recovery milestones, and fitness for discharge were studied. Equal amounts of morphine and fentanyl were used in the PACU, but pain scores were higher in the fentanyl group in the ambulatory surgical unit. In addition, the fentanyl group required more oral analgesia than the morphine group (69 vs. 17%; $P < 0.0002$). The incidence of in-hospital side effects was similar. However, the morphine group had a more frequent incidence of postdischarge nausea and vomiting than the fentanyl group (59 vs. 24%; $P < 0.016$). There was no significant difference in the duration of stay in the PACU (morphine vs. fentanyl, 69 ± 15 min vs. 71 ± 20 min), the times to achieve recovery milestones, and fitness for discharge (morphine vs. fentanyl, 136 ± 41 min vs. 132 ± 40 min). The short duration of fentanyl was not associated with faster discharge times; most patients required additional analgesia to control pain. Morphine produced a better quality of analgesia but was associated with an increased incidence of nausea and vomiting, the majority of which occurred after discharge.

Comparison of sevoflurane and halothane for outpatient dental anaesthesia in children

ST Paris, M Cafferkey, M Tarling, P Hancock, PM Yate, PJ Flynn

Brit J Anaesth 1997;79(3):280–4
In a prospective, randomized, double-blind clinical study, we have studied 100 children, aged 2–12 years, to compare halothane and sevoflurane in outpatient dental anaesthesia. All patients were unpremedicated and received inhalation induction using nitrous oxide in oxygen supplemented with either halothane (maximum inspired concentration 5%) or sevoflurane (maximum inspired concentration 8%). Time to loss of the eyelash reflex was more rapid using sevoflurane although time to adequate anaesthesia (to allow insertion of a mouth prop) was slower in the sevoflurane group. The incidence of cardiac arrhythmia was higher during halothane (62%) than during sevoflurane anaesthesia (28%) ($P < 0.005$) and the arrhythmias were more often ventricular in origin. The two agents were comparable in terms of ease of use and quality of anaesthesia, and times to eye opening and satisfying discharge criteria were similar. We conclude that sevoflurane has qualities that have made halothane the most used inhalation agent for children, and that it is superior to halothane in dental outpatients where cardiac arrhythmias are a particular problem.

The safety of diagnostic and therapeutic ERCP as a daycase procedure with a selective admission policy

HD Duncan, IL Hodgkinson, M Deakin, JRB Green

Eur J Gastroenterol Hepatol 1997;9(9):905–8

OBJECTIVE: To assess if therapeutic endoscopic retrograde cholangiopancreatography (ERCP) as a daycase procedure with a selective admission policy is safe and cost-effective.
DESIGN: An audit of case notes of patients who attended as a daycase for either a therapeutic or diagnostic ERCP over a 20-month period.
SETTING: Stoke-on-Trent District General Hospital.
PATIENTS: Case notes of all patients who had an ERCP as a daycase were audited.
INTERVENTIONS: Therapeutic procedures performed as daycases included papillotomy, stent insertion, balloon dilatation or a combination of these procedures. Patients are discharged home 2 h after diagnostic or therapeutic ERCP.
MAIN OUTCOME MEASURES: 30-day morbidity and mortality of daycase patients.
RESULTS: During the 20-month period audited, 550 ERCPs were performed, of which 240 attended initially as daycases. There were 97 successful daycase therapeutic ERCPs. Ten patients were admitted immediately after ERCP including one who subsequently died from a myocardial infarction (known severe ischaemic heart disease); 87 patients were discharged 2 h after ERCP; none were admitted between 2 and 48 h after ERCP; 4 were admitted between 48 h and 30 days after ERCP with complications. There were 117 successful daycase diagnostic ERCPs; four patients were admitted immediately due to frailty, four were admitted between 2 and 48 h and 1 at 28 days after ERCP with complications. There were 24 failed diagnostic and 2 failed therapeutic ERCPs.
CONCLUSION: Daycase ERCP with a selective admission policy is safe and cost-effective.

Indications, techniques, results, limits, and complications of laser in situ keratomileusis

L Buratto, M Ferrari

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In this article we describe the state of the art of laser in situ keratomileusis (LASIK) through a presentation of the principles, the advantages, the disadvantages, the indications, the techniques, and the main complications. LASIK, as it is known today, involves the creation of a corneal flap using a keratome; this is followed by the in situ photoablation of the exposed stromal bed with an excimer laser. The flap thickness is about 160 mm with a circumference of about 300°, the idea being to leave a portion of tissue attached, thus creating a corneal hinge. The in situ stromal bed exposed by the lamellar cut is then photoablated and the flap is repositioned without sutures. Functional recovery and anatomical healing are rapid. The operation is painless, and it is performed under topical anesthesia in an outpatient environment.

Laser-assisted outpatient septoplasty results on 120 patients

Y.-V Kamami

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OBJECTIVE: I describe a new outpatient technique of septoplasty, advocated to minimize and simplify surgery under local anesthesia with new laser instruments especially designed.
SUMMARY BACKGROUND DATA: This quick technique takes 5 min and has a specific clinical application in chronic nasal obstruction due to moderate anterior septal deviation in adults. It is less invasive that traditional septoplasty and potentially more advantageous in terms of decreased patient recovery time, less morbidity, lower medical costs, and faster return to full activity.
METHODS: I retrospectively review my experience with 120 patients, from August 1995 to November 1996, with a patient evaluation pre- and postoperatively, at first by a direct interview with clinical examination and acoustic rhinometry, then by a telephone interview with strictly standardized questioning.
RESULTS: Of the 120 patients, a surgical success rate of 96% on the nasal obstruction was achieved. Many patients experienced improvement on other symptoms like nasal discharge, frequent sneezing, frequent headaches, recurrent rhino-sinusitis, and sense of smell and sleep troubles. Observations comparing pre- and post-operative rhinometries revealed a significant increase of the size of the mean minimal cross-sectional areas (MCA) of the narrow side, at the anterior part of the nose, an increase of the mean nasal cavity volume (NCV), and a decrease of mean nasal airway resistance (NAR).
CONCLUSIONS: This new technique appears to be a safe, quick, simple, predictable, bloodless, and virtually painless in-office procedure without side effects. These encouraging good preliminary results must be confirmed by further study and long-term follow-up.