



Society for Ambulatory Anesthesia

Ambulatory AnesthesiaSM

PRESIDENT'S MESSAGE

Creating Opportunity From Challenge: Progress to Date

By Barbara S. Gold, M.D.
SAMBA President

It has been both an honor and a privilege to serve as SAMBA President for this past year — a year that has been notable for change, opportunity and challenge. Last May, I outlined several successes as well as challenges that SAMBA faced; today I would like to share our progress and future concerns with you and outline some opportunities.

Outpatient anesthesia continues to grow and thrive, such that the vast majority (70 to 75 percent) of surgical procedures are performed on an ambulatory basis (SMG Marketing Group, 1999). However, as you probably have noticed in your own practices, we are all being asked to do more with less while still being held accountable to very high standards of patient safety and efficiency. Time and resources required to attend meetings and to be involved in the very societies (such as SAMBA) that help us deal with the myriad issues we face daily are scarce. This has not gone unnoticed. SAMBA has responded by trying to add member value in a convenient, efficient and cost-effective manner. We have responded through multiple fronts in communications, education and research.

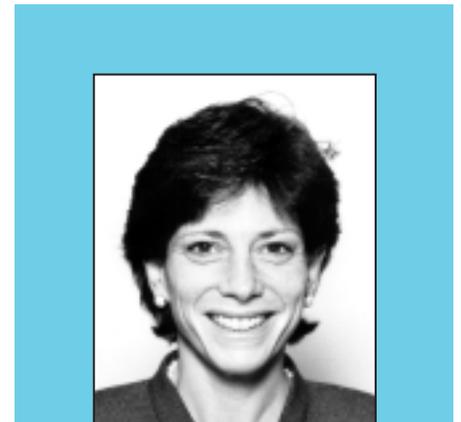
This year to complement our printed newsletter, SAMBA launched an electronic monthly bulletin that is e-mailed to all SAMBA members. Under the leadership of J. Lance Lichtor, M.D., Iowa City, Iowa, this communiqué provides a rapid mecha-

nism for alerting the SAMBA membership on recent research, meetings and other timely topics. The SAMBA Web site <www.sambahq.org> has been enhanced to provide a moderated discussion forum for members, thanks to the efforts of Terri G. Monk, M.D., Gainesville, Florida, and the Committee on Communications. Patient information, online annual meeting registration and much more

This past year, SAMBA has continued to build and maintain bridges with other organizations in order to be a stakeholder in issues that are key to ambulatory surgery safety and education.

also are available from our Web site.

On the education front, the SAMBA Annual Meeting has always been a highlight, and this year is no exception. The May 2002 meeting, chaired by Walter G. Maurer, M.D., Cleveland, Ohio, has been slightly reformatted this year to take advantage of the location in Orlando, Florida. It is specifically designed to provide a concentrated amount of clinically relevant information in a few days yet still provide plenty of



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opportunity to enjoy the numerous local attractions with friends and family. In response to member input, features this year include workshops on regional anesthetic techniques (including the continuous block), use of anesthesia simulators, discussion of new regulatory issues, new practice guidelines and management of difficult patients from age 1 to 99. Registration is available online at the Society's Web site.

SAMBA has enjoyed generous support from corporate sponsors in order to advance our educational mission and support research. However, we are not immune to economic downturns and pharmaceutical company mergers, which shrink educational budgets. Therefore over the past several months, SAMBA aggressively trimmed its budget and engaged a professional financial advisor. These

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Sharing Ideas for a Better SAMBA

In the current health care environment, we are under constant pressure to be more efficient and cost-effective and thus need to frequently evaluate our practice. One of the improvements in our practice is the emphasis on prevention of postoperative nausea and vomiting (PONV) and pain, which has allowed us to reduce recovery times and hospital stays. According to current recommendations, intravenous droperidol (0.625-1.25 mg) is the drug of choice for PONV prophylaxis (either alone or in combination with other antiemetics) because it is the most cost-effective antiemetic.

To our great surprise, however, the Food and Drug Administration (FDA) recently issued a "black box" warning on droperidol use. According to this warning, droperidol should be used only if other treatments fail. Furthermore, if droperidol is used, a 12-lead electrocardiogram (ECG) should be obtained before its administration to ensure that there is no prolongation of the QTc interval. In addition, ECG monitoring should be continued for at least three hours after its administration.

It seems that the FDA has based its decision on reports of prolonged QTc interval and cardiac arrests associated

with even low doses (0.625 mg) of droperidol. However, no such reports are published in the literature. Furthermore, it is interesting that the FDA has issued such a warning after more than 30 years of extensive droperidol use. In this issue of the newsletter, **T. J. Gan, M.D.**, Duke University Medical Center, Durham, North Carolina, provides us with an excellent insight into the implications of the "black box" warning on the management of PONV.

It is important that we urge the FDA to re-examine the "black box" warning; otherwise we will be forced to stop using a well-established and cost-effective drug. I encourage you to send your concerns to the FDA through its Web site at <www.fda.gov/cder>.

In addition to prevention of PONV, it also is imperative that we prevent postoperative pain. With emphasis on multimodal analgesia therapy, there is increased use of local anesthetic techniques. Nevertheless, these techniques are limited by the duration of the local anesthetic used. Perineural local anesthetic infusion techniques prolong the duration of analgesia and improve postoperative pain management. There are concerns, however,



Girish P. Joshi, M.D.

regarding the safety of these techniques particularly after discharge home. **Brian M. Ilfeld, M.D.**, University of Florida College of Medicine, Gainesville, Florida, provides us with an excellent review of discharge criteria and patients' instructions necessary to maximize safety with these techniques.

Anesthetic management of patients with sleep apnea can be challenging particularly in an outpatient setting. **Andrew M. Herlich, M.D., D.M.D.**,

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A Look at the Recent Droperidol Warning

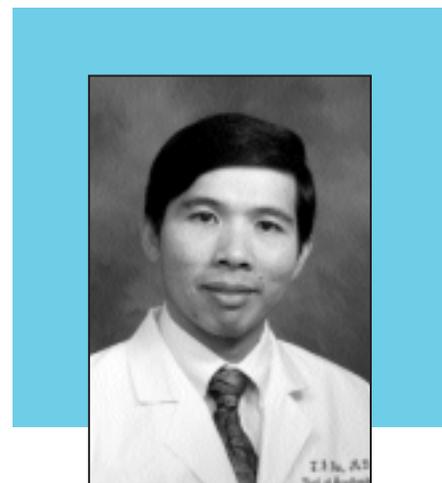
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On December 5, 2001, the Food and Drug Administration (FDA) issued a new "black box" warning on droperidol, a widely used antiemetic for the treatment and/or prevention of postoperative nausea and vomiting (PONV).¹ Droperidol previously carried a warning regarding the potential for sudden cardiac death at high doses (greater than 25 mg) in patients at risk for cardiac arrhythmias. These doses are typically used in psychiatric patients. The present safety issue concerns death associated with QT prolongation and torsades de pointes in patients treated with doses of droperidol within and even below the approved range.

Droperidol has been used for the management of PONV for the past 31 years. Intravenous doses of 0.625 mg to 1.25 mg have been widely accepted as a first-line therapy for the prophylaxis and treatment of PONV.^{2,3} In a recent market survey, droperidol con-

stituted more than 30 percent of the antiemetic market share. Of the 30 million surgical procedures performed each year in the United States, approximately 30 percent of these patients develop PONV. Patients would rather experience pain than PONV, and are willing to pay at their own expense for an effective antiemetic.^{4,5}

Several large, randomized, controlled trials have demonstrated that droperidol is as safe and effective as ondansetron in adults.^{6,7} The so-called number-to-treat for prevention of PONV for both drugs is five to six.^{8,9} In a large, prospective, placebo-controlled study, 2,000 patients were randomized to receive droperidol 0.625 mg or 1.25 mg or ondansetron 4 mg intravenous for antiemetic prophylaxis.⁶ There were no differences in the incidences of PONV (although droperidol 1.25 mg was more efficacious in preventing nausea than the other two treatment groups). More importantly, there were no significant differences in their side effect profiles. These findings have been confirmed in a systematic review of 76 trials that included 5,351 patients receiving 24 different droperidol regimens.⁸ In a cost-effectiveness analysis,^{7,10} droperidol 0.625-1.25 mg were found to be more cost-effective than



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ondansetron 4 mg for the prevention of PONV. The cost to gain an additional PONV-free patient was \$149 for ondansetron 4 mg, \$3.40 for droperidol 0.625 mg and \$2.30 for droperidol 1.25 mg.¹⁰

The revised black box warning was apparently based on 10 case reports in which cardiac arrest or death was alleged to be caused by low-dose droperidol administration (≤ 2.5 mg) during the perioperative period (see table on page 4). The details of these cases, however, were not available to us to help determine if there was a direct cause-and-effect relationship. Based on these anecdotal reports, the FDA recommended that droperidol should not be used as a first-line therapy, and all surgical patients should undergo a 12-lead electrocardiogram (ECG) prior to administration of droperidol to determine if a prolonged QTc interval is present and to continue ECG monitoring for two to three hours after its administration.

Following recent and similar safety concerns raised by the United Kingdom's Medicine Control Agency regarding the chronic use of high-dose oral droperidol for psychiatric patients, the manufacturer of droperidol in the United Kingdom (Janssen-Cilag, Ltd.) decided to withdraw all formulations of droperidol.¹¹ The decision to stop

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Letter to the Editor

Dear Dr. Joshi:

I would like to comment on the January 2002 issue of *Ambulatory Anesthesia* (Vol. 17, No. 1), specifically the article on page 6 that discussed the recommendations for postoperative nausea and vomiting prophylaxis. Kumar G. Belani, M.D., suggested that droperidol should be considered before ondansetron or other antiemetics such as metoclopramide or dexamethasone. However, this recommendation is inconsistent with the new labeling change that Akorn, Inc., has made to Inapsine® (droperidol), whereupon the verbiage

states, "Due to its potential for serious proarrhythmic effects and death, Inapsine should be reserved for use in the treatment of patients who fail to show an acceptable response to other adequate treatments, either because of insufficient effectiveness or the inability to achieve an effective dose due to intolerable adverse effects from those drugs..."

Please let me know your thoughts on this issue. Thanks for the great work you do on the SAMBA newsletter.

Regards,
Craig Paulshock, M.D.
Orlando, Florida

A Look at the Recent Droperidol Warning

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producing the parenteral formulation of droperidol was based solely on economic reasons, even though the Medicine Control Agency included a statement in the "Information for Patients" pamphlet that allowed the continued acute use of droperidol in anesthesia and as an antiemetic. The manufacturers predicted droperidol use following the agency's warning would decline to such a level that it would be uneconomical to support continued production.

There has not been a case report in a

published peer-reviewed journal where droperidol in doses used for the management of PONV has been associated with QTc prolongation, arrhythmias or cardiac arrest. In contrast, the package inserts for the serotonin antagonist group of drugs such as ondansetron, dolasetron and granisetron include comments about potential arrhythmias in high doses. There is a paucity of data examining the arrhythmic effects of droperidol in antiemetic doses. A study comparing hyoscine (scopolamine) and droperidol when used as premedication under halothane general anesthesia in dental

patients found significantly fewer patients developed arrhythmias in the droperidol group compared with the hyoscine group.¹²

None of the other inexpensive generic antiemetics has been studied as extensively as droperidol. Other dopamine antagonists, e.g., haloperidol and prochlorperazine, have been found to be effective in some studies.¹³⁻¹⁵ Anticholinergics such as scopolamine, once widely used as anesthetic premedication, have recently received renewed interest as antiemetics in the

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Cases Reported to the FDA of Serious Cardiac Adverse Events or Death Associated With Antiemetic Doses of Droperidol

Case	Dose	CVS Effects	Outcome	Concomitant Drugs
57, N/A	0.25+	QT prolongation, cardiac arrest	N/A	Fentanyl, methohexital
59, Female	0.625+	MI, QT prolongation, VT, VF	PH	Fluoxetine, Dyazide®, amlopidine, GA, metoclopramide
53, Male	0.625+	VT, T wave inversion	PH	GA, ondansetron, propofol, sevoflurane
53, Male	0.625*	Cardiac arrest	D	Midazolam
35, Female	0.75*	VF, cardiac arrest	PH/PI	Diazepam, antihistamine, aspirin
Age: N/A, Female	1+	Cardiac arrest	PH	Cyclophosphamide, alprazolam, granisetron, dexamethasone
60, Female	1.25+	MI, ventricular bigeminy	N/A	GA, fentanyl, tubocurare, midazolam, estrogen
39, Female	1.5*	Cardiac arrest	D	GA, propofol, fentanyl, hydromorphone, midazolam, bupivacaine, vecuronium
23, Female	2*	Cardiac arrest	D	GA, propofol, midazolam, alfentanil
70, Female	2.5*	Torsade, QT prolongation, cardiac arrest	PH/PI	Metoclopramide

Droperidol was judged as the primary suspect (*) or secondary suspect (+) for the above cases.

D: death; VF: ventricular fibrillation; VT: ventricular tachycardia; GA: general anesthesia; MI: myocardial infarction; N/A: information not available; PH: prolonged hospitalization; PI: permanent brain injury.

Ambulatory Perineural Infusions: Discharge Criteria, Instructions

By Brian M. Iffeld, M.D.
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Local anesthetic infused via a perineural catheter has been shown to improve postoperative analgesia,¹ decrease opioid requirements and related side effects,² improve surgical outcome³ and decrease recuperation time.⁴ Furthermore, providing patients with the ability to reinforce their sensory blockade prior to physical therapy with small boluses of local anesthetic has been shown to further decrease patients' pain, allow more intensive rehabilitation and increase satisfaction with analgesia.⁵ This form of continuous regional analgesia may be used for outpatients using a small, lightweight, portable infusion pump.⁶⁻⁸

To safely utilize this technique in the ambulatory setting, however, several differences from inpatient use must be addressed, including adequate discharge criteria and patient education as well as close physician follow-up and availability.

Discharge criteria: Criteria for "home-readiness" for patients who are being discharged with a perineural local anesthetic infusion differ from the usual criteria in minor but important ways.

Ability to ambulate: Patients who receive lower extremity regional blocks (single-bolus and/or continuous infusion) must have the ability to ambulate before discharge home. It is imperative, however, that patients are educated in the importance of not using their surgical limb for weight bearing. This can be accomplished with the use of crutches. The patient's ability to utilize these aids without syncope or difficulty must be confirmed prior to discharge.

Postoperative analgesia: If a perioperative regional block has not resolved prior to discharge, postoperative analgesic requirements cannot be

assessed. In addition, there is the possibility of catheter misplacement or dislodgement. Therefore, a prescription for oral analgesics should be provided to all patients and the importance of filling the prescription immediately after leaving the surgical center should be emphasized. It is not recommended that patients wait to see if they will need the oral analgesics before filling the prescription as this may result in a period of inadequate analgesia. Furthermore, patients should be educated regarding the side effects, drug interactions and pharmacokinetics (e.g., onset and duration times) of oral analgesics.

Utilization of an infusion pump with a patient-controlled bolus function in addition to a basal infusion should decrease the need for oral analgesics to treat break-through pain. If such a pump is used, patients should be educated on the time required to achieve pain relief after a local anesthetic bolus (this will differ depending on the local anesthetic utilized). If the pain has not resolved after the waiting period, oral analgesics must be available.

Neurological function of the extremity: Because of the potential risk of injuring an anesthetized limb, discharging patients home with a residual regional block remains controversial. Although there are no outcome studies specifically examining the safety of this practice, studies involving thousands of ambulatory patients suggest that home discharge prior to block resolution does not increase postoperative morbidity.^{9,10} Appropriate patient selection is crucial, however, as not all patients desire or are capable of accepting the extra responsibility of protecting an anesthetized extremity. Patients should be contacted the morning after surgery to confirm block resolution, although some degree of sensory blockade may remain depending on the local anesthetic, infusion rate and catheter location.

Risks specific to perineural infusions: While perineural local anesthet-



Brian M. Iffeld, M.D.

ic infusion offers significant improvements in pain control, there are several potential risks, including catheter-site infection, catheter migration, local anesthetic toxicity and nerve injury. The signs and symptoms of possible catheter-related and local anesthetic-related complications must be explained to the patient.

Discharge instructions: To maximize safety with this technique, patients should be given extensive written and verbal instructions. The discharge instructions include:

- Emphasis on the importance of protecting the surgical extremity and keeping any removable brace or splint in place except during physical therapy.
- Instruction not to drive or operate machinery during the perineural infusion.
- Instruction to keep the catheter site dry and dressings intact.
- What to do if local anesthetic leaks from under the protective dressing (we provide patients with extra occlusive dressings to reinforce the catheter while not removing it).
- What patients should expect regarding sensory and motor block resolution. Patients should be asked to contact their physician if sensory or motor deficits evolve during perineural infusion.

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Controversies in Ambulatory Anesthesia Re-revisited

By Andrew M. Herlich, M.D.
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The first article summarizing last year's Mid Year Meeting appeared in the January 2002 issue of *Ambulatory Anesthesia*.

The afternoon session of the SAMBA Fifth Mid Year Meeting held last October in New Orleans, Louisiana, started with management of the ambulatory patient with obstructive sleep apnea. Two anesthesiologists and an otolaryngologist presented their views on a hot topic in anesthetic management.

The first speaker was **Andrew M. Herlich, M.D.**, Philadelphia, Pennsylvania. His presentation sounded the cautionary notes concerning these patients. Emphasis was placed on the preoperative evaluation and possible postponement of elective procedures until the sleep apnea was completely evaluated and treated appropriately. Differences between male and female patients were mentioned. Specifically, male patients may have obstructive sleep apnea with significantly less body-mass index than women. Additionally, woman may have significantly more comorbidities than men. A number of medications were mentioned as particularly problematic in the management of these patients. They included benzodiazepines and opioids, and nondepolarizing neuromuscular blockers were especially troublesome on an outpatient basis.

The routine use of local anesthetics by the surgeon as well as the use of succinylcholine infusions were mentioned. Additionally, preoperative use of acetaminophen and nonsteroidal anti-inflammatory drugs (NSAIDs) when possible also were mentioned. Because airway management of these patients may be difficult, awake fiberoptic intubation may be necessary in patients with significant obesity. The concept of maintaining the endotracheal tube in place in an overnight setting also was

emphasized. In some cases, elective tracheotomy should be considered.

Louis A. Freeman, M.D., Fresno, California, presented his observations as to how patients with obstructive sleep apnea may be managed safely. Using patients presenting for bariatric surgery, he described his approach to the safe management of these patients. His approach was quite similar to the previous speaker, including the avoidance of premedication if possible or until the patient was in the operating room and the avoidance of nondepolarizing muscle relaxants. Dr. Freeman emphasized that many patients with bariatric issues and obstructive sleep apnea have gastroesophageal reflux disease. Therefore, antireflux prophylaxis was highly recommended.

He also recommended the use of local anesthesia by the surgeon in addition to NSAIDs. His center has sent most of its patients home within 23 hours of surgery without significant morbidity or mortality.

The final panelist was **Mary A. Fazekas-May, M.D.**, New Orleans, Louisiana, an otolaryngologist who presented the "Surgical Perspective on Obstructive Sleep Apnea." Dr. Fazekas-May immediately answered an attendee's question concerning safety of outpatient surgery in patients with obstructive sleep apnea (OSA). Her answer was a confident "yes and no," depending upon the severity, region of surgery, extent of surgery and security of the airway. She described a number of the surgical procedures that improve OSA, with their relative successes and failures.

Additionally she described the frequency and severity of airway complications in these patients. Surprisingly there was no correlation between apnea severity and complication rate. She concluded that there are no reliable criteria to identify appropriate OSA patients for outpatient surgery. If the patient has a primary snoring or upper airway resistance syndrome, he or she is probably safe for an ambulatory procedure. Patients with moderate to



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severe OSA, such as those requiring continuous positive airway pressure or BiPAP, are not safe for ambulatory procedures. She emphasized that the perioperative use of steroids is helpful to reduce edema but cautioned against the liberal use of perioperative opioids.

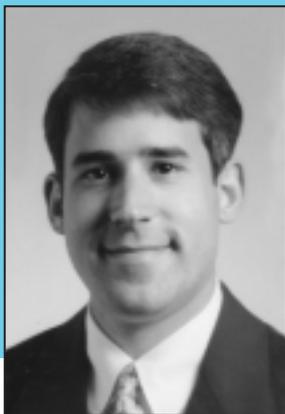
After Dr. Fazekas-May's presentation, a lively question-and-answer period ensued between the panelists and the audience. A number of audience members described their personal misadventures such as death of a patient many hours after discharge home despite the reluctance of the anesthesiologist to release the patient.

The final session concerned financial and regulatory issues. **Adam F. Dorin, M.D.**, Baltimore, Maryland, discussed financial failures of ambulatory surgical centers (ASCs). He pointed to the fact that physicians are not always good business people. He strongly urged members of the audience to use the assistance of as many professional business people (e.g., accountants) as possible. Undercapitalization and underestimating an 18- to 36-month startup phase are crucial to the financial success of an ASC. Additionally, overbuilding and insufficient planning also has contributed to failures of ASCs.

Dr. Dorin emphasized that proper

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Review of ASA Ambulatory Anesthesia Abstracts



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In this article, additional scientific abstracts of interest presented at the 2001 American Society of Anesthesiologists (ASA) Annual Meeting in New Orleans, Louisiana, are summarized. (For previous reports, see the January 2002 *Ambulatory Anesthesia*.) The ASA abstract numbers are presented in brackets for reference [e.g., A-31].

Three abstracts evaluated various anesthetic modalities for ambulatory knee arthroscopy. **Srinivasa B. Gutta, M.D.**, and colleagues from Baystate Medical Center, Springfield, Massachusetts, examined the use of preoperative intra-articular local anesthetic (LA) injection versus general anesthesia (GA) and LA injection at surgical completion in patients undergoing arthroscopic meniscectomy [A-15]. They found that those patients in the LA-only group had shorter postanesthesia care unit (PACU) discharge times and improved postoperative analgesia profiles, including longer duration and less oral analgesic consumption in the first 24 hours after surgery compared to the GA group.

Andrea Casati, M.D., and colleagues from Milano, Italy, performed an interesting cost analysis of patients undergoing knee arthroscopy by comparing three anesthetic techniques: 1) combined sciatic-femoral nerve block, 2) total intravenous GA and 3) low-dose hyperbaric spinal anesthesia [A-

16]. Their results showed that significantly more patients receiving regional anesthesia were able to bypass phase I recovery as compared to those receiving GA, thus reducing PACU-related costs. In addition, the sciatic-femoral nerve block proved most cost effective by improving both postoperative recovery and patient discharge times.

With increasing controversy surrounding the use of spinal lidocaine and reports of transient neurologic symptoms (TNS), **Kathleen L. Larkin, M.D.**, and **Michael F. Mulroy, M.D.**, from Virginia Mason Medical Center, Seattle, Washington, prospectively compared the use of epidural chloroprocaine versus low-dose spinal bupivacaine with fentanyl in patients undergoing knee arthroscopy [A-18]. Interestingly, they found that epidural anesthesia in this setting was more reliable than spinal anesthesia and was associated with faster recovery and shorter PACU discharge times.

Many of the ambulatory anesthesia abstracts presented dealt with the issue of postoperative nausea and vomiting (PONV). **Ashraf S. Habib, M.D.**, and colleagues at Duke University Medical Center, Durham, North Carolina, performed a meta-analysis of the published literature looking at the effects of the combination of antiemetic agents. Their findings suggested that the combination of

either ondansetron and droperidol or dexamethasone and 5-HT₃ receptor antagonist had a significant synergistic effect in adult patients with PONV [A-42]. In addition, they concluded that for prevention of early PONV, the combination of 5-HT₃ receptor antagonists with either droperidol or dexamethasone were better than the 5-HT₃ receptor antagonists alone [A-20].

Margarita Coloma, M.D., from the University of Texas Southwestern Medical Center, Dallas, Texas, also found that the combination of the 5-HT₃ receptor antagonist dolasetron plus dexamethasone in patients having laparoscopic cholecystectomy was superior to dolasetron alone, resulting in faster home readiness and increased patient satisfaction [A-40]. Those patients who received the combination antiemetic therapy also had less nausea 24 hours after surgery.

C. R. Robertson, M.D., and his group from Scott and White Clinic, Temple, Texas, compared ondansetron and dolasetron in 320 adult patients undergoing laparoscopic surgical procedures in a randomized, double-blind trial [A-19]. They concluded that there was no difference between the two drugs prior to discharge. However, more than 44 percent of patients in each group required rescue antiemetic therapy. They suggested

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Review of Geriatric Anesthesia Poster Sessions

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The ASA poster session on ambulatory and geriatric anesthesia took place on October 15, 2001, and covered a wide variety of subjects. Topics for the poster presentations included outpatient anesthesia techniques, agents and equipment, preoperative conditions and information gathering, treatments for nausea, vomiting, shivering and anxiety, and alternative medicine use. Six of the posters focused on regional techniques. One of these studies involved low-dose spinal anesthesia. This concept of selective spinal anesthesia also was presented at last year's SAMBA Annual Meeting.

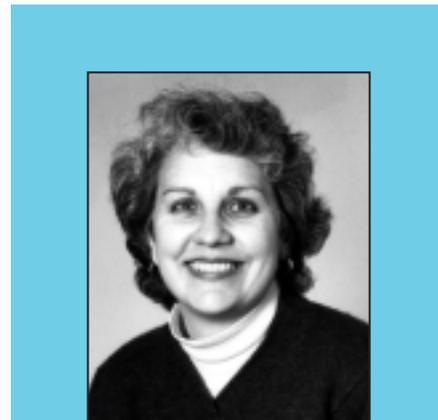
A group from Sourasky Medical Center in Tel Aviv, Israel, compared anesthesia techniques for brachytherapy in an outpatient clinic. Patients received either spinal anesthesia with 5 mg of bupivacaine or general anesthesia (GA) with thiopental induction, fentanyl, nitrous oxide and isoflurane via a laryngeal mask airway (LMA). All subjects were required to drink freely, ambulate and urinate prior to discharge. Patient safety and comfort, pain, side effects and efficiency were examined. Most of the patients were elderly, from 66 to 68 years old. Both anesthesia techniques had similar outcomes in the areas of safety, stability of vital signs, pain, postoperative nausea and vomiting and functional capability. Spinal anesthesia patients had longer postanesthesia care unit (PACU) stays due to the voiding requirement. However, patients in the spinal group were more satisfied with their anesthesia.

Investigators at the University of Texas Medical School at Houston looked at three different anesthesia techniques for carpal tunnel release. They considered cardiovascular stability and time to discharge for patients who received either GA, intravenous

(I.V.) regional anesthesia or distal nerve blocks at the wrist. Their data illustrated improved cardiovascular stability with less hypotension or hypertension and tachycardia or bradycardia in the group that received the distal nerve blocks. Time to discharge also was significantly shorter in this group: one hour less than the GA patients and 23 minutes less than the I.V. regional patients.

Options for outpatient knee arthroscopy was the subject of three posters at the session. A group from Milan, Italy, presented a study in which it administered either combined femoral and sciatic nerve blocks, spinal anesthesia with 8 mg of hyperbaric bupivacaine or GA comprised of a thermally induced voltage alteration technique using propofol and remifentanyl and airway management with supraglottic devices. They examined preparation and discharge times and anesthesia-related costs of various techniques. The two regional groups were fast-tracked more often than patients who had GA. Pain relief from the femoral-sciatic blocks lasted well into the PACU stay, while several patients in the other two groups required rescue analgesics. Also, the nerve block patients had lower total direct and indirect anesthesia-related costs.

Investigators from the Virginia Mason Medical Center in Seattle, Washington, compared epidural and spinal techniques for knee arthroscopy procedures. They looked at both discharge times and patient satisfaction after either spinal anesthesia with 5 mg hyperbaric bupivacaine with fentanyl or epidural 3 percent 2-chloroprocaine. Each study group had 15 patients. The epidural anesthesia patients had shorter PACU stays and no anesthetic failures or back pain. Some patients in the spinal group suffered anesthetic failures or pruritis. The investigators summarized their findings by stating that spinal anesthesia is less effective due to the longer discharge time, increased side effects and lesser reliability.



Mary Ann Vann, M.D.

The final study on knee arthroscopy came from the Baystate Medical Center in Springfield, Massachusetts. Discharge times and analgesic use were recorded for 30 patients who underwent meniscectomy under either GA or local anesthesia with sedation. The GA patients received midazolam, fentanyl, propofol and sevoflurane via an LMA with an intra-articular injection of 0.25 percent bupivacaine at the end of the procedure. After sedation with midazolam, an intra-articular knee block with 0.25 percent bupivacaine was administered to the local anesthesia group in the preoperative holding area prior to surgery. These patients who received local anesthesia were discharged home 40 minutes earlier and had duration of analgesia six hours longer than the GA group, which resulted in a significant decrease in oxycodone usage in the first 24 hours postoperatively.

Researchers from Duke University Medical Center in Durham, North Carolina, investigated low-dose spinal anesthesia. They compared the effectiveness of low-dose spinal anesthesia with either lidocaine or ropivacaine in patients undergoing anorectal surgery. Sixty-one patients were administered either 25 mg of hyperbaric lidocaine with 25 mcg of fentanyl or 4 mg hyperbaric ropivacaine with fentanyl through a pencil-point needle while in

the sitting position. They found that both agents resulted in adequate intraoperative anesthesia in all patients, a similar recovery time and no incidents of transient neurologic symptoms at one, three or seven days. The reported time to discharge in both groups, however, was approximately three hours.

The concept of low-dose spinal anesthesia was introduced to SAMBA members attending the Society's 2001 Annual Meeting. **Himat Vaghadia, M.B.**, discussed his group's experience with selective spinal anesthesia (SSA) at Vancouver General Hospital, Vancouver, British Columbia, Canada.

He described their use of dilute local anesthesia, which results in a differential nerve block. They add fentanyl 25 mcg or sufentanil 10 mcg to enhance the effects of the local anesthetics. They have discovered that sufentanil has the advantages of rapid onset and shorter duration (around 120 minutes) than fentanyl. Also, they were able to further decrease the amount of local anesthesia when sufentanil was used.

SSA has been studied in more than 200 patients undergoing outpatient laparoscopy. After receiving SSA with 10 mg of 1 percent lidocaine and 10 mcg of sufentanil (diluted up to a vol-

ume of 3 ml with sterile water), most patients maintained normal motor power, dorsal column function and autonomic function and were able to ambulate out of the operating room at the end of surgery. Sparing of motor function occurs with dilute local anesthetic solutions, specifically concentrations less than 1 percent for lidocaine or less than 0.25 percent for bupivacaine. The final concentration, of course, depends on the volume of lumbosacral cerebro-spinal fluid the anesthetic mixes into, and they estimate this volume at 50 cc. [\[1\]](#)

Ambulatory Perineural Infusions: Discharge Criteria, Instructions

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- Patients should be aware of the signs and symptoms of infection, including an increase in body temperature, catheter-site tenderness, erythema, edema, purulent discharge and local temperature increase.

- Signs and symptoms of local anesthetic toxicity should be provided to the patient because of the possibility of intravascular catheter migration.

- Epidural migration is a potential risk when utilizing an interscalene perineural catheter. Therefore, signs and symptoms of local anesthetic administration in the cervical epidural space should be explained to the patient.

- Intramuscular migration of the catheter and subsequent local anesthetic administration in the muscle may lead to myonecrosis. Misplacement of a catheter would be expected to lead to a decrease or cessation of analgesia.

However, the infusion should be discontinued only after contacting a health care provider.

- Patients should have the ability to contact a health care provider at all times. Patients should be contacted by telephone at least once a day and specifically asked for the symptoms of possible complications.

References available on the SAMBA Web site <www.sambahq.org>. [\[2\]](#)

Controversies in Ambulatory Anesthesia Re-revisited

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preparation for these facilities requires leaders to be identified early. Governance plans, proformas for distribution to potential investors and financial plans with capital options need to be identified early as well. In other words, due diligence must be part of the planning. Otherwise failure may be a reasonable expectation.

The final speaker of the day was attorney **Judith Jurin Semo, J.D.**, Washington, D.C., who updated the audience on Medicare compliance issues. Ms. Semo emphasized that billing slips must be accompanied by the anesthesia record to prevent errors.

Documentation for supporting a claim needs to appear in the patient's record. Additionally, the issue of continuous presence was clarified. Transfer of care issues also were discussed. She emphasized that if personnel changes have been made during the anesthetic, they must be documented carefully on the anesthesia record. Another area that has been a source of difficulty is prohibition on performing other services. An anesthesiologist cannot personally perform an anesthetic and perform another task such as a break or caring for patients in the postanesthesia care unit.

Medical direction, according to federal regulations, must contain docu-

mentation for seven steps. According to Ms. Semo, "The anesthesiologist must personally perform all of these portions of a case in order to bill for medical direction services." Discussion of immediate availability, prohibition on providing additional services and which nonphysician personnel may be medically directed also were mentioned in her discussion. A number of other issues were discussed, but the area that drew the most discussion both during and after Ms. Semo's presentation was the issue of concurrency. Ms. Semo emphasized that documentation and accuracy are keys to preventing trouble. [\[3\]](#)

The Wood Library-Museum and You

By Judith A. Robins
Collections Supervisor
Wood Library-Museum
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Park Ridge, Illinois

Study the past, if you would divine the future.

– Confucius

SAMBA has a close relationship with its parent organization, the American Society of Anesthesiologists (ASA). SAMBA provides ASA a remittance for the services it receives. An intangible benefit provided to SAMBA is the relationship enjoyed with the various components within ASA, including the Wood Library-Museum of Anesthesiology (WLM).

When one walks through the library located on the third floor of the ASA office building and sees members researching the literature, one can practically hear the books and periodicals talking among themselves. A visit to the museum is an informative stroll through the history of anesthesiology taught by such notable names as Drs. Long, Morton, Davy, Connell, Morgan, Waters, Blake, Boyle, Siker, Apgar and many others.

One of the most heavily used services and benefits offered to ASA and SAMBA members is unlimited access to the WLM's more than 9,000 books, 100 foreign and domestic journals, hundreds of films and photographs and many other resources, including biographical files. It is the largest library in the world devoted to anesthesiology and related medicine.

The WLM also collects anesthetic equipment and apparatus from around the world with an emphasis on North America. All time periods are represented, including the latest developments in technology. These artifacts

are available for research and are supported by extensive files on the pharmaceutical and equipment industries. The best of the collection is on view in a handsome gallery that is open to the public, where educational tours are offered to schools and other organizations. These displays are continuously refreshed as the museum grows. A new exhibit on ambulatory anesthesia is currently being planned. SAMBA members are invited to participate in the design of this exhibit.



The WLM library offers form and function. It is the most comprehensive library in the world devoted to anesthesiology-related materials.



Even frequent users of these resources may not be aware that the WLM has more going on behind the scenes. Scholars of the history of anesthesiology compete annually for the Research Fellowships sponsored by the WLM. There is an active publications program that issues new books, reprints and translations of rare classics and the popular series of biographical essays, *Careers in Anesthesiology*. Videotaped interviews with leading figures in the field are produced each year for the Pender Living History Collection.

At every ASA Annual Meeting, the WLM is proud to offer the Wright

Memorial Lecture as well as a new, informative exhibit each year. Each new exhibit is then added to the stock of the WLM traveling exhibits program. These are available for long- and short-term loan.

Among the most important collections at the library are the archives of many professional societies, including those of SAMBA. These are a vital part of WLM's mission to chronicle the growth of anesthesiology. Records that have permanent, archival value include legal, fiscal and administrative files and publications as well as "firsts" and other historical highlights. To ensure their longevity, these materials are placed in archival-quality containers and kept in a controlled environment. Listings of the records held by the WLM are available on request.

SAMBA and the WLM are working cooperatively to ensure that SAMBA's archival records are preserved. However, circumstances such as spilled coffee, basement floods and other common hazards can lead to a gap in the official records. We therefore ask you, the membership, to help us fill these gaps. Correspondence, minutes, directories, meeting announcements and programs, publications, photographs and souvenirs all have archival value. If you have these or other SAMBA materials, please consider donating them to the SAMBA archives.

For more information about the programs, collections and services of the Wood Library-Museum of Anesthesiology, contact Librarian Patrick Sim at (847) 825-5586 or e-mail at <p.sim@ASAhq.org>.

For more information about the SAMBA archives or the new ambulatory anesthesiology exhibit, contact Collections Supervisor Judith A. Robins at (847) 825-5586 or e-mail at <j.robins@ASAhq.org>.

Creating Opportunity From Challenge: Progress to Date

Continued from page 1

actions were taken by the Board to enhance (not just maintain) member value in these economically challenging times. So far, so good.

In the research arena, you may recall that in May 2000 the first SAMBA Outcomes Research Award in the amount of \$100,000 was granted to Lee A. Fleisher, M.D., of Johns Hopkins University, Baltimore, Maryland. That two-year study is nearing completion, and we are eager to learn and share the findings. Due to the enthusiasm and interest generated by this award, SAMBA is actively exploring ways to continue this innovative program in a fiscally responsible manner.

This past year, SAMBA has continued to build and maintain bridges with other organizations in order to be a stakeholder in issues that are key to ambulatory surgery safety and education. SAMBA has been actively involved with organizations such as the Accreditation Association for Ambulatory Health Care, Inc., and the National Patient Safety Foundation in

order to help promote patient safety in the office setting. In 2003, SAMBA will co-host the International Association of Ambulatory Surgery (IAAS) Meeting on May 8-11 in



Boston, Massachusetts, with the Federated Ambulatory Surgery Association (FASA). This joint meeting will offer plenty of opportunity for "cross pollination" with our colleagues from around the world. Looking ahead to spring of the following year, SAMBA will host a one-day meeting in April 2004 prior to the World Congress of Anesthesiologists in Paris, France.

Like any vibrant organization, SAMBA faces challenges along with opportunities. For example, how can we further engage our membership? How do we enhance member value? How do we best secure our financial health and thus ensure our educational mission? These challenges and others demand an involved membership and a dedicated Board. Judging from this past year, though, I have every confidence that if we work together, we will successfully tackle these issues and others and continue that success well into the future.

In closing, I would like to express my deepest gratitude to the SAMBA membership for giving me the opportunity to serve as president. I also am very grateful for the dedication, hard work and support of the SAMBA Board of Directors and our executive director, Gary W. Hoormann, and his staff. Without this team, SAMBA would not be where it is today. I am confident that SAMBA is well-positioned for the future and all the opportunities it holds. 

Review of ASA Ambulatory Anesthesia Abstracts

Continued from page 7

that a multimodal approach is more appropriate in prevention of PONV in this patient population.

Finally, three interesting abstracts dealing specifically with the fast-tracking of ambulatory patients were presented. In the abstract by **Shireen Ahmad, M.D.**, and colleagues from Northwestern University Medical School, Chicago, Illinois, they found that the use of a bispectral index (BIS) monitor did not significantly increase their ability to fast-track patients after laparoscopic procedures as compared to a standardized, tightly controlled anesthetic regimen [A-47]. This lack of difference was demonstrated with

similar length of stay and a less than 5 percent difference in total hospitalization costs.

Dr. Coloma and her colleagues also presented a study in which they were able to show that patients who met fast-track criteria experienced quicker times to orientation and discharge from the hospital [A-48]. Patient satisfaction scores as well as frequency of side effects were similar in both groups. Residual sedation was, however, a major factor in not being able to fast-track patients in spite of the use of a BIS monitor and a structured anesthetic regimen.

The difference between caregivers in ability to determine if a patient meets fast-tracking criteria was inves-

tigated by **Donald M. Mathews, M.D.**, and his group from St. Vincent's Hospital, New York, New York [A-49]. In this study, they showed that PACU nurses differed significantly from the anesthesiologists in their assessment of patients' readiness for fast-tracking. This difference was thought to be due to the use of objective criteria by the anesthesiologists as compared to the subjective criteria used by PACU nurses. In order to provide a more uniform assessment, the authors suggest the need to use similar criteria for all those involved with patient care. 

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A Look at the Recent Droperidol Warning

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form of transdermal patches.¹⁶ Among the commonly used antihistamines, promethazine and diphenhydramine have been shown to be effective, although with the potential for sedation.^{17,18} While a single dose of dexamethasone (up to 8 mg) appears to be safe and effective, larger doses and prolonged use can potentially have harmful side effects.¹⁹ Avascular necrosis of the femoral head can develop following relatively brief courses (seven days) of orally administered steroids.²⁰

The FDA warning will have major implications on the use of droperidol in an ambulatory setting. While we routinely monitor ECG during the intraoperative period, it is simply impractical to continue monitoring ECG for two to three hours following drug administra-

tion. If indeed these reported adverse events were directly related to droperidol, one may need to re-evaluate the routine use of droperidol as the first-line therapy. It would be practically impossible to determine the cost-effectiveness of the use of the drug, when taking into consideration the costs for treating adverse events and loss of life, since the event rate is extremely small.

In light of the enormous economic impact of utilizing the more costly 5-HT₃ antagonists as replacements for droperidol, the agency should establish an expert advisory panel to examine these clinical case reports and the recommendations regarding the use of droperidol in the future.

References available on the SAMBA Web Site <www.sambahq.org>.

Sharing Ideas for a Better SAMBA

Continued from page 2

Temple University School of Medicine, Philadelphia, Pennsylvania, summarizes the lectures on management of the ambulatory patient with obstructive sleep apnea and financial aspects of ambulatory surgery practice that were presented during the SAMBA Fifth Mid Year Meeting held last October in New Orleans, Louisiana.

Brian M. Parker, M.D., and **Raymond G. Borkowski, M.D.**, Cleveland Clinic Foundation, Cleveland, Ohio, and **Mary Ann Vann, M.D.**, Harvard Medical School, Boston,

Massachusetts, summarize the posters presented during the last ASA Annual Meeting in New Orleans, Louisiana.

The Wood Library-Museum of Anesthesiology is currently planning an exhibition on ambulatory anesthesia and also working with SAMBA to ensure that SAMBA's archival records are preserved. We request our members to help the Wood Library-Museum in this endeavor.

Finally, I remind you to attend the SAMBA 17th Annual Meeting on May 2-5, 2002, at the Hilton in the Walt Disney World Resort, Orlando, Florida.