OASIS

Newsletter of the
Ophthalmic Anesthesia Society

OPHTHALMIC ANESTHESIA SOCIETY

HIGH QUALITY ANESTHESIA CARE THROUGH TRAINING & EDUCATION

SPRING 2009

PRESIDENTS MESSAGE

We are half way between annual meetings, and I hope all of you are planning to come to Chicago September 11-13. The program has been finalized, and I think it will be well worth your time for some of the finest CME available. We will hear about some experimental work in new ocular anesthetics, how to choose and implement an EMR system for the ASC, tips for the pre-operative evaluation of and intra-operative monitoring of the eye surgery patient, an update on diabetes management, and much more. Spence Byrum will be back (by popular demand) talking about error prevention, and he will also be offering a workshop on Saturday afternoon. In addition to the popular Case Discussion Sunday morning, we are adding two additional open-forum type sessions. The first will be on cost saving and efficiency, and the second on discussion of ophthalmic anesthesia challenges from the OAS blog. In addition, internationally known OAS ophthalmologists Luther Fry and Steve Charles will be speaking, and Gary Fanning will be presenting the inaugural Hustead Memorial Lecture.

We will also be holding an off-site reception at the International Museum of Surgical Science Saturday evening. This will be a great chance to mingle with our colleagues and tour a very interesting museum.

The OAS has been invited to partner with the American Academy of Ophthalmology in developing an online educational course in ophthalmic anesthesia. The outline and learning objectives have been done, and work is proceeding on the course development.

Alfie Pino has worked long and hard in getting together an Advocacy Committee to deal with the recent devaluing of anesthesia code 00142. Please support this committee in whatever way you can, as this issue directly affects all OAS members.

Despite these tumultuous economic times, we are fortunate to practice professions in

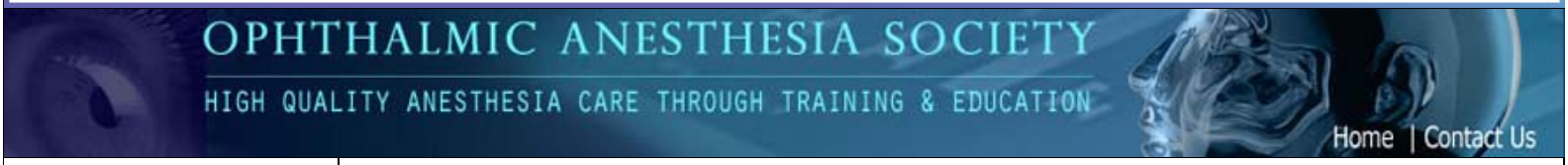
which we can have a direct and positive impact on our patients' lives. Press on, and I will see you in Chicago.

David D. Markoff
Mountain Eye Associates
Clyde NC

© Ophthalmic Anesthesia Society. All rights reserved.

OASIS

Newsletter of the
Ophthalmic Anesthesia Society



SPRING 2009

E Y E O P E N E R S !

NEW on CRNAbiz.com:

OAS Member Dan Simonson produced a video demonstrating the significance of needle selection when performing ophthalmic anesthesia techniques. Have a look: CRNAbiz.com

EyeNetArticle

OAS Baord Members Steve Gayer and Joe Bayes are featured in this article published in February Eyenet.

Nominating Committee

Dr. Steve Gayer is chairing this year's Nominating Committee. If you willing to serve a three-year term on the Scientific Advisory Board, or if you would like to recommend a colleague, please email Staff at Info Info. Your Society needs your leadership and input!

Advocacy Committee

The newly formed Advocacy Committee, Chaired by Dr. Alfie Pino and co-Chaired by Dr. James Merson, seeks your participation and input. The recent downgrading by the ASA of Code 00142 has caused considerable alarm among our members. See details here.

We want to upgrade the OAS membership database to include information about your ability to support the work of the Advocacy Committee. Please email staff at Info Info and tell us the following:

1. What relationships do you have that might be helpful to the Advocacy Committee? For example: state and Federal lawmakers, professional organization Board members, committee members or staff (ASA, AANA, AAO, ASCRS, etc), state medical board members, CMS officials, HHS officials and others.

2. Would you be willing to make contact on behalf of OAS to support our legislative/advocacy agenda?

OAS does not have funding to engage professional lobbyists. But we can have a significant impact with a grassroots lobbying effort – IF we have YOUR support!

Member-Get-A-Member Discount

Encourage your colleagues to attend the OAS Annual Meeting as a first-time visitor, and we'll knock $50 off YOUR registration for each new attendee you bring with you. Simply have your colleagues contact Staff at Info Info and let us know their attendance is at your invitation so you can receive the discount.

Annual Meeting Special Event!

We have planned a special reception for OAS meeting attendees and their guests at the International Museum of Surgical Science. The reception will be held Saturday after close of workshops. Guests may walk or taxi to the Museum (1.35 miles North of the Conrad Hotel) and plan to arrive at 5:30. We'll enjoy a private tour, light hors d'oeuvres and beverages, and another opportunity to gather with OAS colleagues. The reception will conclude by 7:00, affording an opportunity to enjoy one of Chicago's fine dining establishments if you choose.

The cost is $45 per person and may be added to the conference registration fee if you wish to participate. Reservations for the IMSS Reception must be made by August 15. Participation is limited!

Take the virtual tour.

Chicago Accommodations

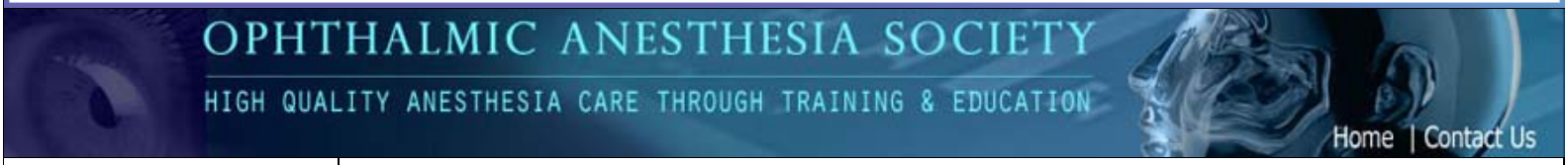
No doubt you can find a less expensive hotel in Chicago, but you will not find nicer accommodations than the Conrad Hotel at our special group rate. We urge you to take advantage of this special rate and enjoy the luxury of the Conrad during the OAS Meeting. In order to have our nice meeting space, OAS must take responsibility for filling sleeping rooms in the hotel. Any rooms not taken by our Members must be paid for by the Society. PLEASE! Support your organization by staying in our Headquarters hotel.

Call for Case Discussions

We want to include your difficult cases in our annual Sunday morning Case Discussion that is chaired by Dr. Marc Feldman. Please email a summary of cases which have presented your team with decision-making challenges when patient or OR safety was in question. Send all cases to the Administrative Office via email to Info Info by August 15, 2009.

© Ophthalmic Anesthesia Society. All rights reserved.

OASIS
Newsletter of the
Ophthalmic Anesthesia Society



SPRING 2009

FASTING AFTER MIDNIGHT: IS IT NECESSARY?

Myra Aultman CRNA
Callahan Eye Foundation Hospital
Birmingham AL

Patients scheduled for surgery have traditionally been held NPO -nil per os- (Latin for nothing by mouth), at midnight prior to the day of the scheduled surgical procedure. The primary reason has been the belief that fasting will create an “empty stomach” in preparation for administration of a general anesthetic. This practice has been followed even when local or monitored anesthesia care is scheduled for the patient. It is believed that an “empty stomach” provides the safest environment possible in the event the planned local or regional anesthetic required conversion to a general anesthetic.

Why is an “empty stomach” desirable prior to a general anesthetic? Because general anesthesia attenuates the protective laryngeal reflexes, there is a risk that solids or liquids from the stomach can gain entry into the tracheobronchial tree.[1] Moreover, the use of muscle relaxants during induction can allow the often unrecognized and passive effect of regurgitation to occur, causing gastric secretions to gain access to the trachea.[2]

Mendelson described the aspiration syndrome in 1946 when he reported that unaltered human gastric contents injected into the lungs of rabbits produced lung lesions similar to those found in human autopsies.[3] A few years later, Teabeaut determined that aspiration pneumonitis was dependent on both the physical and the chemical properties of the aspirated gastric contents.[4] He concluded that pneumonia would occur if the pH was lower than 2.5, regardless of the composition of the aspirated gastric content. The experiments of these two researchers indicated that complications of Mendelson’s syndrome, or aspiration pneumonitis, were a result of either an obstruction of the bronchial tree or by an exudative reaction secondary to the acidic pH of the secretions.[3,4]

The fear of aspiration and its serious sequelae has caused clinicians to follow a rigid fasting protocol which allows no fluids/liquids or solids six to eight hours preceding a scheduled anesthetic in adults. The protocol has been relaxed to allow clear liquids two to three hours prior to surgery in children and “healthy” adults.[5,6] The American Society of

Anesthesiologists (ASA) has not only developed guidelines stating that it is acceptable to allow clear liquids in "healthy" adults two hours prior to anesthesia, but has also made them part of Pay for Performance initiatives.[6,7]

Recently, less strict guidelines in regards to preoperative fasting have been suggested for other adults as well. The trend to relax the requirements has been as a result of studies showing that fasting increases metabolic stress, insulin resistance, thirst, hunger, anxiety, PONV, and postoperative dizziness and confusion.[8]

Significant clinical aspiration has also been shown to be a rare complication in modern anesthesia: 1.4-6 per 100,000 anesthetics for elective general surgery.[9,10] The fasting protocols that have been followed for decades have not taken into account the differences in the rate of gastric emptying for solids and clear liquids. Nor have they been relaxed when risks of pulmonary aspiration are absent. Some of the most common risk factors for pulmonary aspiration include: a high ASA physical status score; emergency surgery; difficult airway management; increased gastric volume and acidity, and extremes of age.[8] Diabetic patients with autonomic neuropathy or uncontrolled hyperglycemia, both of which can result in gastro paresis, may be at increased risk for aspiration during induction of anesthesia.[11,12] 58% of patients with type I diabetes and 30% of type II have been shown to demonstrate an impaired gastric function as evidenced by delayed gastric emptying of solids.[12]Difficult airway management with its increased risk for aspiration becomes a factor in the pre-operative evaluation due to a large number of insulin dependent diabetic patients presenting with Stiff Joint Syndrome and obesity.[11]

Preoperative fasting in patients, including diabetic patients, increases postoperative insulin resistance.[1,12] Therefore, providing a preoperative carbohydrate (CHO) treatment in the form of a beverage or IV infusion should help prevent the insulin resistance as evidenced by lower postoperative insulin requirements that is caused by fasting. While this has been shown to be the fact by some researchers [(1,11)] it has not been borne out in studies of ASA III-IV patients.[13]

In conclusion, relaxed fasting requirements might be considered, in keeping with accepted guidelines provided by such groups as the American Society of Anesthesiologists (ASA). A surgery schedule with delayed start procedures might also be an indication for relaxed fasting guidelines. For "to follow" procedures, allowing patients to receive CHO to break a long fast in an attempt to better control postoperative insulin resistance and insulin requirements might be worth consideration. However, the physical status of a facility's patient population and the difficulty of individualizing fasting instructions must be considered, keeping in mind that if in doubt, a conservative approach might be safest.

---

[1] Ljungqvist O, Søreide E. Preoperative fasting. *British Journal of Surgery* 2003; 90: 400-406.

[2] Bannister WK, Sattilaro AJ. Vomiting and aspiration during anesthesia. *Anesthesiology* 1962; 23:251-264.

[3] Mendelson CL. The aspiration of stomach contents into the lungs during obstetric anesthesia. *Am J Obstet Gynecol* 1946; 52: 191-205.

[4] Teabeaut JR. Aspiration of gastric contents an experimental study. *Am J Pathol* 1952 Feb; 28 (1):51-67.

[5] NPO Status and instructions for infant/pediatric patients prior to the day of surgery. Callahan Eye Foundation Hospital.

[6]Practice Guidelines for Preoperative Fasting and the Use of Pharmacologic Agents to Reduce the Risk of Pulmonary Aspiration: Application to Healthy Patients Undergoing Elective Procedures. *Anesthesiology* 1999; 90:896-905.

[7] Johnstone TE. Advancing Performance Separate From P4P. American Society of Anesthesiologists NEWSLETER.Nov. 2008; 72 (11): 8-18.

[8] Nygren J, Thorell A, Ljungqvist O. Are there any benefits from minimizing fasting and optimization of nutrition and fluid management for patients undergoing day surgery? *Curr Opin Anaesthesiol* 2007; 20:540-544

[9] Scarlett M, Crawford-Sykes A, Nelson M. Preoperative starvation and pulmonary aspiration. New perspectives and guidelines. *West Indian Med J* 2002 Dec; 51(4): 241-5.

[10] Crenshaw, JT, Winslow EH. Preoperative fasting: old habits die hard: research and published guidelines no longer support the routine use of 'NPO after midnight,' but the practice persists. *AJN* 2002 May; 102 (5): 36-44.

[11] Stoelting RK, Miller RD (2000) Endocrine Diseases. *Basics of Anesthesia,* 4th Ed. Churchill Livingstone, Philadelphia, pp. 406-410.

[12] Tokumine J, Sughara K, Fuchigami T, Teruya K, Nitta K, Satou K. Unanticipated full stomach at anesthesia induction in a type I diabetic patient with asymptomatic gastroparesis. *J Anesth* 2005; 19: 247-248.

[13] Breuer JP, Dossow V, et al. Preoperative oral carbohydrate administration to ASA III-IV patients undergoing elective cardiac surgery. *Anesthesia and Analgesia* 2006 Nov; 103(5):

1099-1108

© Ophthalmic Anesthesia Society. All rights reserved.

OASIS

Newsletter of the
Ophthalmic Anesthesia Society

SPRING 2009

AWAKENINGS: Excerpts

Awakenings is a quarterly newsletter for the CEFH anesthesiology staff. Initiated by Myra Aultman and now in its second year, it is also provided to the Wood Library Museum of Anesthesiology at ASA headquarters. An article or two may be included in OASIS when topics are of interest to those providing ophthalmic anesthesia. As diabetes becomes more prevalent in the general population, patients presenting for ophthalmic surgery will have a disproportionately high incidence of diabetes and all of its head-to-toe complications.

Autonomic Neuropathy - the Silent Killer of Diabetic Patients

Myra Aultman CRNA and Gwendolyn Boyd MD
Callahan Eye Foundation Hospital

Birmingham AL

Both the sympathetic and parasympathetic components of the autonomic nervous system are involved in diabetic autonomic neuropathy (DAN). The autonomic nervous system innervates every organ with vasomotor, visceromotor, and sensory nerves.[1] The sympathetic nervous system often referred to as the “fight or flight” response, may be considered to be analogous to the accelerator of a car while the parasympathetic nervous system would be analogous to the brakes of a car.

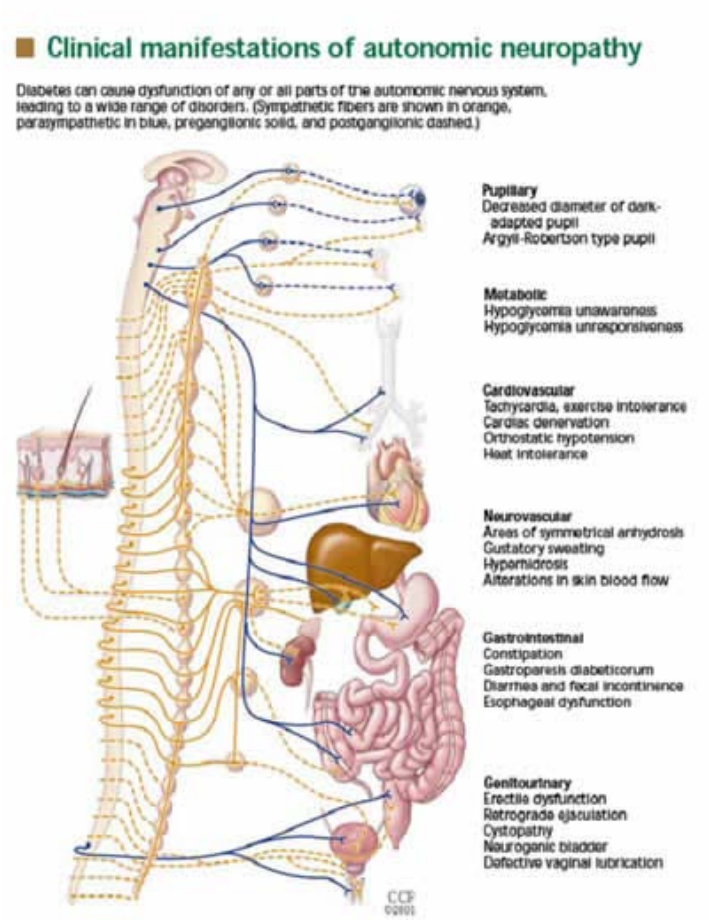
The vagus nerve, the longest of all autonomic nerves, is the most recognized as well as accounting for 75% of all parasympathetic nervous system activity.[2] A “vasovagal” attack is associated with decreased both heart rate and blood pressure. Several adverse clinical manifestations of diabetes are related to increased parasympathetic activity including resting tachycardia, exercise intolerance, gastroparesis, and hypoglycemia unawareness.[3]

Cardiac autonomic neuropathy (CAN) occurs in at least one third of Type II diabetes patients. [4] Diabetic patients with CAN have three times the mortality rate compared to those without CAN with a 56% five year mortality rate following its diagnosis.[5] The damaged autonomic nerves to the heart and vasculature can cause perioperative instability especially during anesthesia. Orthostatic or postural hypotension, defined as greater than a 20 mmHg fall in systolic pressure with standing without a compensatory increase in heart rate, arrhythmias, “silent” i.e. painless, myocardial ischemia and infarction, all occur with CAN as well as does sudden death.[6]6

Preoperative Assessment of DAN

The association of retinopathy and CAN is so strong[7] that every patient undergoing surgery for diabetic retinopathy should be presumed to have CAN. Symptoms of CAN include cough, nausea, dyspnea, and fatigue.[8] Figure 1 depicts the clinical manifestations of autonomic neuropathy.

Figure 1. Reprinted from: Cleveland Clinic Journal of Medicine November 2001



Clinical signs of DAN include resting tachycardia with heart rates 100-110 due to an abnormal paradoxic increase in parasympathetic activity with sympathetic challenges resulting in greater sympathetic activity. This paradoxic parasympathetic syndrome (PPS)10 appears to be a primary increase in sympathetic activity which if treated as such worsens the situation by increasing the parasympathetic activity even more. These patients typically have difficult to control blood pressures and blood sugars amongst a myriad of other systemic symptoms.

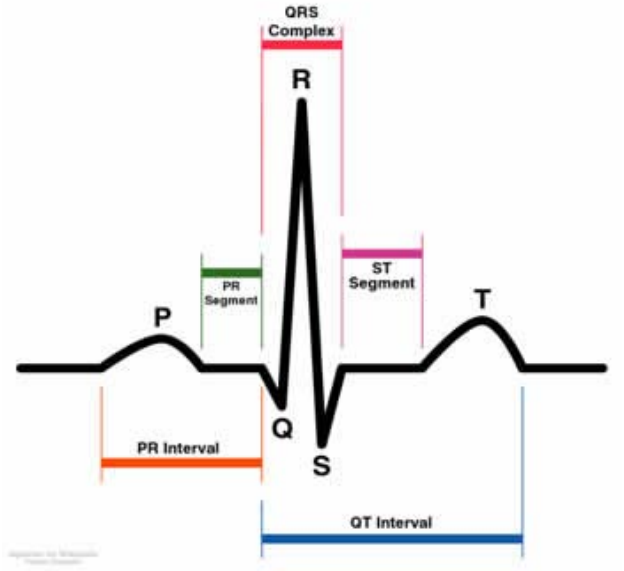
Exercise tolerance is limited in patients with DAN as the normal redistribution to skeletal muscle as well as the augmentation of cardiac output during exercise cannot occur with DAN.[9,11] Compounding factors limiting the ability to exercise include a decreased ejection fraction, systolic dysfunction and decreased diastolic filling of the heart.[9] Gastroparesis from denervation of the stomach markedly delays emptying of the stomach. Symptoms include nausea, vomiting, early satiety, bloating, epigastric pain and anorexia. Gastroparesis interferes with nutrient delivery to the small bowel disrupting glucose absorption and exogenous insulin administration with resultant “brittle diabetes” from wide swings in glucose levels. Diabetic diarrhea occurs in about one fourth of patients with 20 or more bowel movements per day. Clonidine may be effective in improving the diarrhea.[9]

As DAN progresses patients may lose their awareness of hypoglycemia as catecholamine release is impaired preventing the warning signs of hypoglycemia. The inability to mount a counterregulatory response to hypoglycemia is dangerous[9] and has led to premature death due to hypoglycemia in attempting tight glycemic control in these patients.

In the preoperative assessment, patients should be questioned about their hemoglobin A1C levels and whether they have protein in their urine. If the patients are unaware of these tests, chances are they have poorly controlled diabetes and attendant DAN. The perioperative period for eye surgery is an opportune time to educate patients about their diabetes as they are experiencing serious complications with potential blindness as a result of their poorly controlled diabetes. Tight control of diabetes has been shown to slow the progression of retinopathy and DAN,[12,13] and this should emphasized to patients.

The QTc on the ECG when greater than 440 msec indicates CAN with a threefold risk of mortality. [4,14] The QTc is the QT interval corrected for heart rate.

Figure 2. Normal ECG Trace (Figure reprinted from: http://en.wikipedia.org/wiki/Image:SinusRhythmLabels.svg)



There are tests for autonomic dysfunction including heart rate variability, response to standing and Valsalva maneuver. Currently, although recommended,15 these tests are rarely done. However, with newer equipment and algorithms for treatment based on these test results they hopefully will become part of routine diabetic patient management.

Intraoperative and Postoperative Management

These patients with DAN often require vasopressor support during general anesthesia because the normal autonomic response of vasoconstriction and tachycardia doe not completely compensate for the vasodilation caused by inhalational agents coupled with their myocardial depressive effects.[1,6] Furthermore, diabetic patients are known to unexpectedly become bradycardic and hypotensive without any apparent precipitating cause during anesthesia and surgery.[16] As mentioned in the first edition of The Awakenings, the impaired autonomic nervous system of diabetics may not respond to atropine, necessitating the early administration of epinephrine for bradycardia and hypotension.

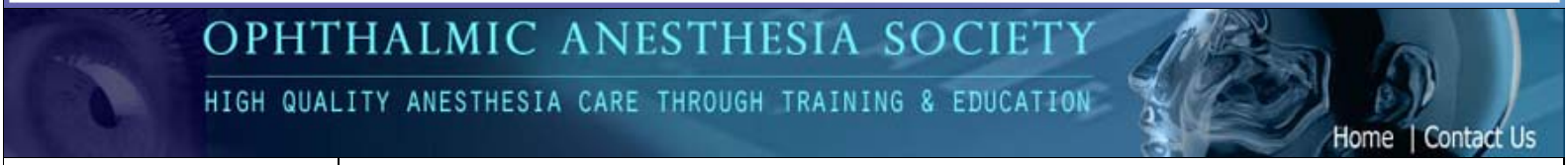
Anesthesia providers, surgical nurses, and PACU nurses must become familiar with the clinical manifestations of autonomic dysfunction and the risks involved with those manifestations. The symptoms of this disorder range from annoying bouts of syncope associated with postural hypotension to the lethal outcomes associated with ventricular arrhythmias, silent myocardial ischemia and infarction. Mortality rates in diabetic patients with DAN are more than five times that of diabetic patients without.[17] Care of these patients requires vigilant monitoring and assessment by every practitioner involved.

1. Vinik AI, Maser R, Mitchell B, Freeman R: Diabetic Autonomic Neuropathy. *Diabetes Care* 26(5):1553-1579, 2003
2. Ziegler D:Cardiovascular autonomic neuropathy: clinical manifestations and measurement. *Diabetes Reviews* 7:300-315,1999
3. American Diabetes Association Standards of medical care in diabetes - 2008 *Diabetes Care* 31(supplement 1):S12-S54, 2008
4. Ziegler D, Zentai C P, Perz S, Rathmann W, Haastert B, Doring A, Meisinger C: Prediction of Mortality Using Measures of Cardiac Autonomic Dysfunction in the Diabetic and Nondiabetic Population. *Diabetes Care* 31 (3): 556-561, 2008.
5. Ewing, DF, Campbell IW, Clark BF, The natural history of diabetic autonomic neuropathy. Q J Med NS 49:95-108, 1980
6. Vinik A, Ziegler D: Diabetic Cardiovascular Autonomic Neuropathy. *Circulation* 115(3): 387-397, 2007
7. Schmid H, Schaan B, Cecconello F, Maestri T, Neumann C Proliferative diabetic retinopathy is related to cardiovascular autonomic neuropathy in non-insulin dependent diabetes mellitus Diabetes Res Clin Prac 29:163-168, 1995
8. Bloomgarden ZT Diabetic retinopathy and neuropathy Diabetes Care 28(4):963-970, 2005
9. Vinik AI, Erbas T Recognizing and treating diabetic autonomic neuropathy Cleveland Clin J Med 68(11):928-944
10. Ortiz-Burgos A Autonomic Function Testing: Clinical Applications and

Examples.
11. Endo A, Kinugawa T, Ogino K, Kato M, et al. Cardiac and plasma catecholamine responses to exercise in patients with Type II diabetes: Prognostic implications for cardiac-cerebrovascular events. Am J Med Sci 320(1):24-30, 2000
12. Martin CL, Albers J, Herman WH et al. Neuropathy among the diabetes control and complications trial cohort 8 years after trial completion. Diabetes Care 29:340-344, 2006
13. Varkonyi T and Kempler P. Diabetic neuropathy: new strategies for treatment. Diabetes, Obesity Metabolism 10:99-108, 2007
14. Kahn JK, Sisson JC, Vinik AI. Prediction of sudden cardiac death in diabetic autonomic neuropathy. J Nuclear Med 29(9):1605-6, 1988
15. Boulton AJM, Vinik AI, Arezzo JC. Bril V, et al. Diabetic Neuropathies: A statement by the American Diabetes Association. Diabetes Care 28(4):956-62, 2005
16. Ciccarelli LL. Ford CM Tseuda K. Autonomic neuropathy in a diabetic patient with renal failure. Anesthesiology 64:283-287, 1986
17. O'Brien IA McFadden JP, Corrall RJM The influence of autonomic neuropathy on mortality in insulin-dependent diabetes. Q J Med 79:495-502, 1991
18. Gerritsen J, Dekker JM, TenVoorde BJ, Kostense RJ, Heine RJ, Bouter LM, Heethaar RM Stehouwer Impaired autonomic function is associated with increased mortality, especially in subjects with diabetes, hypertension or a history of cardiovascular disease: the Hoorn study. Diabetes Care 24:1793-1798, 2001

OASIS

Newsletter of the
Ophthalmic Anesthesia Society



SPRING 2009

Diplopia Study – Phase III Completed

Dan Simonson CRNA MHPA
The Spokane Eye Surgery Center

In the last issue of OASIS, I described the first two steps of a study of post-operative complications of retrobulbar blocks- in particular, diplopia. In those steps, I first conceived the idea (based on a lecture given to us at an OAS meeting in Sept., 2007 by Dr. David Guyton). I discussed the idea with colleagues, then went home and did a literature review to understand the parameters I should include in the study.

Phase I

Working with Dr. Guyton, I then developed the study document to include the pre-operative and post-operative questionnaires and data collection instruments. Also important were the methods of tabulating the data, which was a FileMaker® database. After developing all of the printed materials, I applied to my local Institutional Review Board (IRB) for approval of the study.

The IRB determined that the study qualified as a “Registry”, meaning that I planned on simply following our postoperative patients more closely, looking for a particular complication. As such, it did not require full IRB review, and I was thus able to get “expedited” review. The main addition to the study from the IRB experience was a very lengthy 4-page consent form that the patient was to review and sign prior to entry into the study.

Phase II

In phase II, I began the data collection process. We found that the best way to enlist patients into the study was to ask them just as they checked into the Surgery Center. They were given the documents to review as they waited to be admitted, and then were screened and consented during the admission process.

Enlisting the aid of two of my staff RNs as “research nurses” aided tremendously in getting the paperwork completed and the patients enrolled in a timely manner. As it was, it took

the entire month to recruit and collect data on 126 patients, even though we do approximately 400 retrobulbar blocks a month.

Phase III

At last, we had our patients. We wanted 100 for our final report, so we felt that enrolling 126 would allow for some “lost to followup” and other problems in following the patients. We had to wait 3 months to contact the patients. It took us a full month to contact 100 patients by telephone. Here is where the FileMaker® database was of great assistance. It made it easy for the nurses to review and sort out the patients who had already been contacted and so on. ii.

In the 3-month interim, my surgeons reported a couple of patients to me who had diplopia on their post-op visits. Both of these cases resolved. One patient, a lady, told me that it “reminds me of the problem I had as a child- I used to have a problem with double vision when I was a girl”. Obvious reference to an “unmasked phoria”, where the local anesthetic and the albeit minor surgical trauma was enough to decompensate the mechanism her eyes had been using to maintain single vision.

The follow up calls found just one patient with a diplopia that had not resolved at the end of 3 months. This was an elderly gentleman of 79 years. Using our questionnaire developed with the aid of Dr. Guyton, we were able to find out that he had a pre-existing diplopia of 10 years standing that we had missed on our admitting screen.

Results

Consequently, we had a zero incidence of non-resolving diplopia following retrobulbar block in 100 patients. Because this was a pilot study, we had not closely examined the number of patients it would require to give us the power to generalize the results to the general population. But as an example, in a sample of 100 cases, assuming a p value of .05, convention requires that we have had at least 5 cases of diplopia before we could say that the diplopia was a result of the retrobulbar block.

Summary

We now have a good pilot study for use by any member of the OAS wishing to conduct their own. I have the documents available in Microsoft Word® format, as well as the database in FileMaker®. Simply contact me at dsimonson@mac.com and I will be happy to provide them to you.

Studies like this one are ready-made for use in your Quality Improvement programs, and as it is improved by you, the members, I would appreciate collecting those improvements and incorporating them into the study documents.

OASIS

Newsletter of the
Ophthalmic Anesthesia Society

SPRING 2009

MEMBER SPOTLIGHT

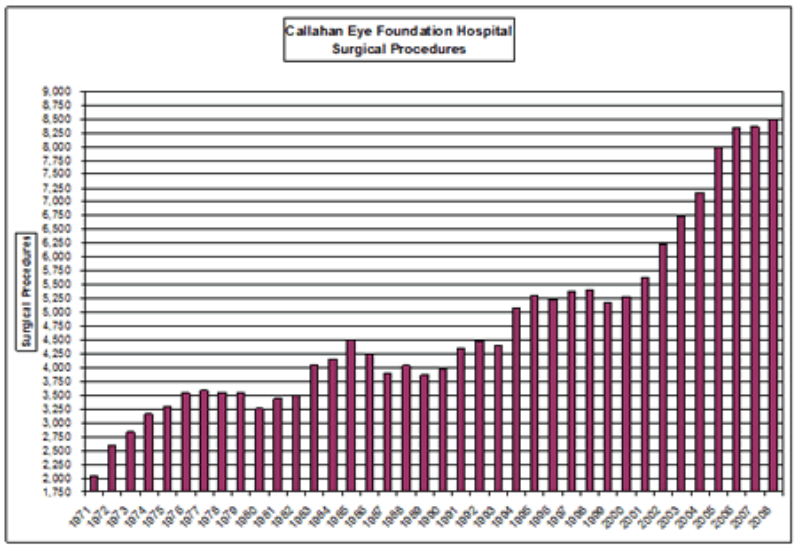
Callahan Eye Foundation Hospital Professional Building
Birmingham, Alabama

Since opening in 1963 as the Eye Foundation Hospital, thousands of patients have received state-of-the-art ophthalmic care and it has become a regional, national and international referral facility. Each of seven subspecialties are represented by the staff of Callahan Eye Foundation Hospital (CEFH). Seventy-one ophthalmologists include 20 vitreoretinal surgeons and the medical staff is a remarkable example of “town and gown” collegiality. Eighty percent of the ophthalmologists are in private practice; the remaining are full-time faculty at the University of Alabama at Birmingham (UAB).

Much has changed in the 46 years except the mission to:

- provide a continuum of vision care services of the highest quality, delivered by highly skilled professionals
- offer the most advanced clinical practice, treatments and technology while supporting education and research
- deliver compassionate care to meet the changing needs and expectations of our patients and community

Nine operating rooms with microscopes, video equipment, instruments, vitrectomy and phaco machines as kept busy daily as well as after hours and on weekends when needed. The number of surgical cases has increased over the decades as seen below. Limited by space for everything from parking to patient care areas, plans are being considered for a new replacement facility. Multiple ophthalmologists would like block surgical time and others would like additional OR block time, but none has been available for quite some time.



The 24hr, 7day ER provides urgent eye care to approximately 5,000 patients per year. While the best quality equipment is essential for modern eye surgery, what makes CEFH operating rooms truly special is nursing staff, including surgical scrub techs. All are highly trained and specialized in ophthalmic surgery. In 2008, CEFH nurses were honored to receive 3 of the 5 national ASORN awards.

Lynne Lanier, VP CEFH and CNO, Annquinetta Kelly, CRNO OR Supervisor, and Melanie Uzzle, CRNO

Nine operating rooms with state of the art microscopes, video equipment, instruments, vitrectomy and phaco machines as kept busy each day Monday through Friday as well as after hours and on weekends when needed. The number of surgical cases has progressively increased over the decades as seen below. Limited by space for everything from parking to patient care areas, plans are being considered for a new replacement facility. Multiple ophthalmologists would like block surgical time and others would like additional OR block time, but none has been available for quite some time.

ANESTHESIA SERVICES AT CEFH

The UAB Department of Anesthesiology began providing services in 1979. Then, Dr. H. Ronald Vinik and Joseph Talamantes CRNA, came as Chief and CRNA supervisor, respectively. Both are still at CEFH. Three years ago, Dr. Vinik stepped down as Chief and currently works two days a week, remaining a wealth of knowledge and experience in ophthalmic anesthesia which he readily shares with all.

H. Ronald Vinik, MD

Myra Aultman, CRNA Supervisor

A total of 29 CRNAs are employed by CEFH. Thirteen are full-time and the rest are in an internal pool created by Myra Aultman, CRNA supervisor.

CRNAs Joseph Talamantes, Ann Gaston, Judy Cutcliffe, Beth Stewart, Anna Hamel, Dwight Taylor, Chelsey Blanchard, Sadie McElroy and Jane Moore.

Three anesthesiologists cover the 9 ORs. Gwen Boyd MD became Chief in 2006. Dr. Hayden Hughes works three days a week at CEFH and the remainder at other UAB hospitals and clinics. Dr. Mark Tavakoli, recently retired from private practice in Birmingham, now works three days a week at CEFH. Rotating UAB faculty anesthesiologists cover the balance of the CEFH surgical caseload.

Hayden Hughes MD, Mark Tavakoli MD, and Gwen Boyd MD Chief

The 200 CEFH hospital employees also include 55 RNs, 16 OR scrub techs, 17 PCA/unit assistants, and 6 pharmacists (two full-time). The head of maintenance has worked at CEFH since it opened when he was in high school. Highly specialized and experienced scrub techs greatly facilitate modern complex ophthalmic surgery, particularly when 6 of the 9 ORs are scheduled with block time for retina surgery—as occurs each Friday.

Most ophthalmic surgery (> 90%) is now ambulatory, so only 20 of the 106 licensed med-surg beds are staffed for inpatients. As a regional referral center for ocular trauma, retinal melanomas, and endophthalmitis, as well as 23-hr observations for the current population of ophthalmic surgery patients with their significant co-morbidities, an in-patient capability is important to care for these patients.

CEFH is recognized as a world leader in ocular trauma. In 2008 patients came from as far away as Singapore and Israel for surgical treatment. Temporary keratoprosthesis pioneered by CEFH surgeons consists of an artificial cornea allowing vitreoretinal surgeons good view and access to assess and repair the damage in the posterior chamber. The procedure is then completed with a donor cornea transplant. The International Ocular Trauma Registry, which began as the Alabama Ocular Trauma Registry and then the United States, as well as the Helen Keller Foundation for Research and Education, are housed in the offices of CEFH surgeons. The Birmingham Eye Trauma Terminology (BETT) is used throughout the world in categorizing ocular trauma.

UAB Department of Ophthalmology Research and Education

The only ophthalmology residency training program in Alabama is at UAB, housed within CEFH. It is a highly competitive and sought after program, wherein future ophthalmologists receive excellent training in all aspects of ophthalmology. Teaching and clinical research are done by both full time and volunteer faculty ophthalmologists.

Cutting-edge basic laboratory research in pathobiology of age-related macular degeneration, neural circuits in the retinal cell biology of proliferative retinal disease, molecular biology of retinal development and plasticity, ocular inflammatory disease, ocular immunology and retinal transplantation are carried out by five full time faculty investigators as well as their graduate students, fellows and technical assistants.

Low Vision Clinic, Lions Eye Clinic, and Library

The UAB Low Vision Center is staffed by ophthalmologists, optometrists, occupational therapists and psychologists combining their respective expertise to help patients with low vision lead more satisfying and productive lives. The Lions Eye Clinic has been part of CEFH since it began and assists the medically indigent to obtain quality eye care. The John E. Meyer Eye Foundation Library is one of the finest ophthalmic library collections in the world. All three of these reside within CEFH. In addition, the International Retinal Research Foundation and the Eyesight Foundation of Alabama are located within the hospital.

History of CEFH

Callahan Foundation Hospital exists today because of the foresight of Dr. Alston Callahan, who decided to accept a challenge rather than submit a bill for medical services to a patient's grandfather. The patient, six-year old Barbara Gregg Ingalls, was the granddaughter of Robert I. Ingalls Sr., founder of Ingalls Ironworks in Birmingham, ans Ingalls Shipbuilding Corporation in Pascagoula, Mississippi. She had been receiving treatment from a New York ophthalmologist, Dr. Townley Paton. However, Dr. Paton referred the child to Dr. Callahan, who had recently opened a practice in Birmingham. Dr. Callahan determined he could treat the child successfully without surgery. Rather than submit a fee for the care of the child's eye disorder, Dr. Callahan asked Mr. Ingalls to help indigent children in need of eye care by donating $20,000. The money would be spent to purchase a lot on which he could build a facility dedicated to ophthalmologic procedures. Mr. Ingalls told Dr. Callahan that if he could raise $10,000 in one week it would be matched by the Ingalls Iron Works. Dr. Callahan met the challenge with donations from acquaintances in the Birmingham area and also by contributing funds from a personal fee received from a patient who was pleased after a successful surgical procedure.

Dr. Callahan was “recruited” to the eye program at the Medical College of Alabama in 1944 by Dr. Kracke,first Dean of the four year Medical School of Alabama in Birmingham. Dr. Callahan was the ophthalmologist in charge of the Eye Unit of the U.S. Army Northington General Hospital in Tuscaloosa during WW II. This “temporary” military hospital of 2,000 beds was the Eye Center for the Southeast with 300 beds assigned for eye patients and 1,000 for injured servicemen and women who needed plastic and reconstructive surgery. After his Army discharge, Dr. Callahan moved his family to Birmingham because of the great potential that he saw in the University and the enthusiastic support from the Alabama Lions and its philanthropic arm, the Alabama Sight Conservation Association. His vision was to help build a great eye center that would be devoted to treatment, research, and charity.

In July 1997 the Eye Foundation Hospital became a part of the University of Alabama at Birmingham Health System. As part of the Health System, the Eye Foundation maintains its mission to provide eye care, offer an ophthalmology residency program and participate cooperatively with UAB in the research of eye diseases. In September 1999, The Eye Foundation Hospital was renamed Callahan Eye Foundation Hospital in honor of its founder, Alston Callahan MD.

Alston Callahan, MD 1911-2005

After retiring from performing surgery, Dr. Callahan continued to come to his office at CEFH until a few months prior to his death at the age of 94. A week prior to his passing, he wrote a letter to the Editor of the Birmingham News in support of a new facility to continue to provide the best in ophthalmologic care. His funeral celebrating his long and fruitful life was highlighted by the playing of Danny Boy, When the Saints go Marching In, and Amazing Grace on the large pipe organ at Highlands United Methodist Church and his grandchildren talking about their beloved grandfather.

The Agam Mural

Agam Mural

The most striking feature of the Callahan Eye Foundation Hospital's University Boulevard facade is "Complex Vision." Created and produced by Yaacov Agam, an internationally famous artist abd son of an Israeli rabbi, it was built entirely from private donations. The 30’ square three-dimensional mural was designed to intrigue and catch the eye, as both shapes and colors change as one passes. If approached from the east, one sees a black and white geometric pattern resembling an animated chess design. As the angle of vision becomes less acute, flecks of color begin to appear and disappear. Standing in front of the building, interlocking blue squares in colorful orchestration are seen, and then dancing shapes of black and strong primary colors on white. Continuing toward the west, the black begins to fade and the primary colors crowd into vivid vertical movement.

The artist created the special effects by having 138 individual vertical strips of aluminum arranged accordion-fashion with opposing faces painted black and white with red, blue and yellow.