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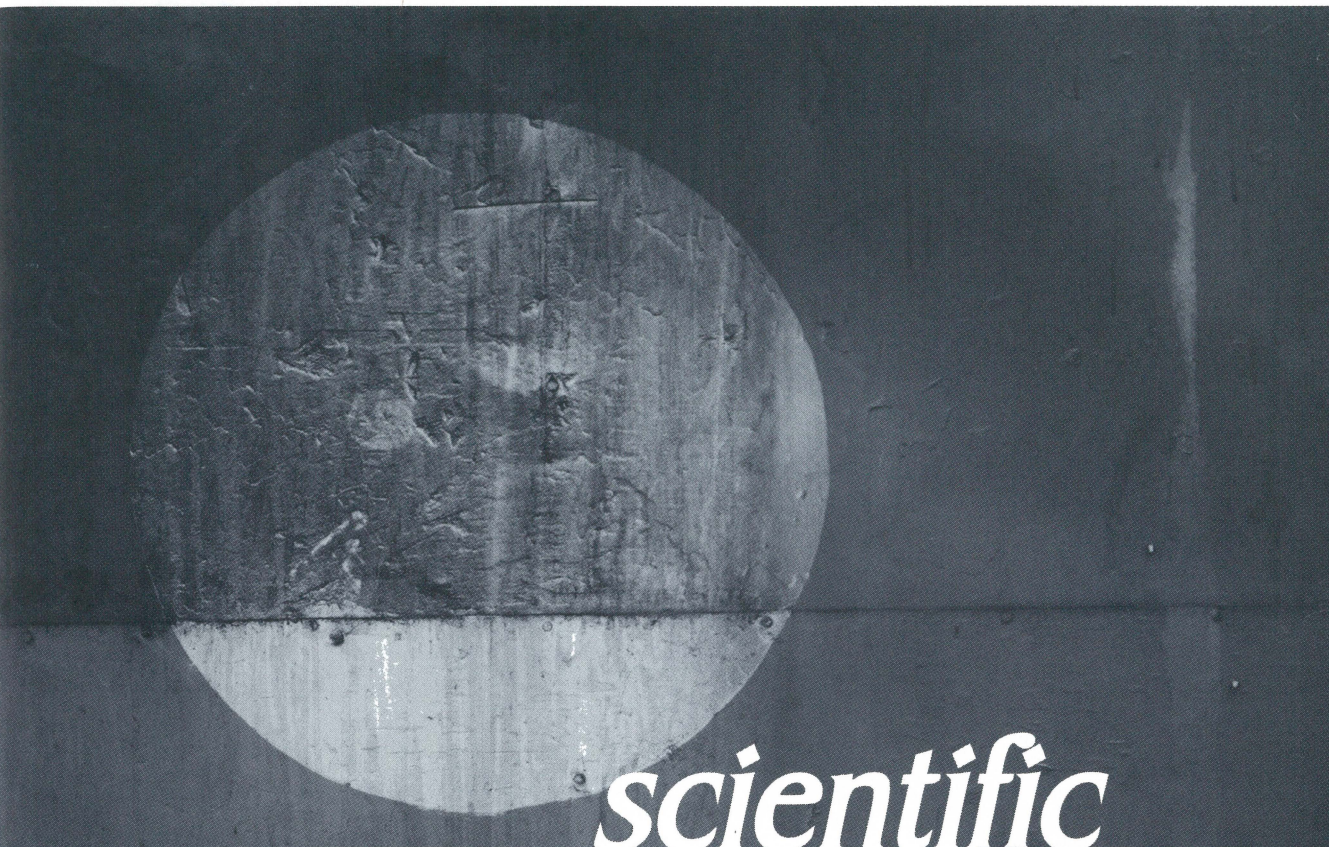


scientific DAY 99

Aurora HealthCare®

JUNE 4, 1999

MIDWEST EXPRESS CENTER

Aurora Health Care
Scientific Day Agenda

Opening Session

Room 102 C, D & E

11:00 am - 11:10 am	**Welcome/Nick Turkal, MD**
11:10 am - 11:15 am	**Introduction of Keynote Speaker/ Thomas Jackson, MD**
11:15 am - 12:15 pm	**Keynote Speaker/Richard Rieselbach, MD**
12:15 pm - 1:00 pm	**Lunch**

Poster Session

Palm Garden - First Floor Foyer Room 102 C, D & E

1:00 pm - 1:30 pm	Norine T. Nazareth, MD
	Alison Lux, MD
	Valeri Chekanov, MD
	Atul Bhatia, MD
	Donna Hemphill, MD
	Hiroyuki Asakura, MD
	Lyndon Hernandez, MD

Breakout Sessions

(Three Concurrent Sessions, as follows)

Patient Education/Resident Medical Education

Moderator - Tim Halkowski, PhD
Room 102 A & B

1:30 pm	Aboud Affi, MD
1:45 pm	Jackie Tillett, CNM, ND
2:00 pm	John Brill, MD
2:15 pm	Diana Burtea, MD

Community Population Studies

Moderator - Dennis Baumgardner, MD
Room 101 C & D

1:30 pm	Jennifer Cohn, MLS
1:45 pm	Dennis Baumgardner, MD
2:00 pm	Nimish Vakil, MD
2:15 pm	Nimish Vakil, MD

Clinical Research

Moderator - Russell Kirby, PhD
Room 102 C & D

1:30 pm	Nimish Vakil, MD
1:45 pm	Anjan Gupta, MD
2:00 pm	Aboud Affi, MD
2:15 pm	Wayne Evans, MD

Plenary Session

Room 102 C, D & E

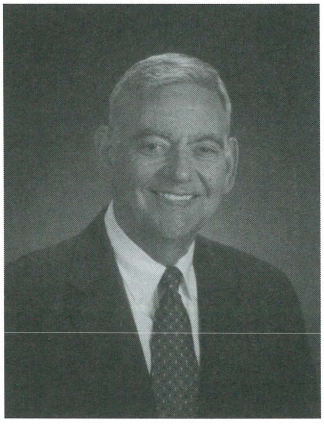
3:00 pm	Introductions - Dennis Baumgardner, MD
3:05 pm	Paul Kaiser, CNM
3:20 pm	Anjan Gupta, MD
3:35 pm	Leticia Gonzales, MD
3:50 pm	Gary Hollander, PhD
	Mark Gennis, MD

Award Presentations

In Recognition of the 25th Anniversary of the University of Wisconsin Medical School Milwaukee Clinical Campus, Aurora Health Care Establishes

The First Annual Rieselbach Scientific Day Lecture

Inaugurated June 4, 1999
Richard E. Rieselbach, MD
"Renal Failure in the Elderly: Strategies for Prevention"



Richard E. Rieselbach, MD

Associate Dean and Chairman
Department of Medicine
University of Wisconsin Medical School
Milwaukee Clinical Campus
1974-1991

Born in Milwaukee, educated at the University of Wisconsin Madison and Harvard Medical School, trained in internal medicine at the University of Illinois and nephrology at Washington University in St. Louis, Dr. Rieselbach has been a member of the faculty of the University of Wisconsin Medical School since 1965.

Dr. Rieselbach provided the inspiration and administrative leadership which created the Milwaukee Clinical Campus at Mount Sinai Hospital in 1974. He shepherded its growth from the initial 46 faculty (full-time and clinical) and 18 residents/fellows, to 90 full-time faculty, 158 clinical faculty, and 108 residents/fellows in six departments by 1991.

His high standards for clinical and academic excellence fostered the recruitment of leaders and the development of innovative programs in primary care, geriatrics, interventional cardiology and electro-physiology, and high risk obstetrics which came to characterize the campus. He maintained a strong commitment to care of the medically indigent, fostering an expectation of community service in faculty and students. He projected a national vision in progressive reform of medical education and health care delivery.

Counseling and Prescription Patterns for Diabetes Mellitus: A State of the Practice

Nazareth, NT, Internal Medicine Residency, Sinai Samaritan Medical Center

The American Diabetes Association recommends that the management of patients with diabetes mellitus include counseling on exercise, smoking cessation, and diet at every visit. It also recommends that an ACE inhibitor and aspirin therapy be considered at every visit. This study examines the extent to which these recommendations are followed. It uses data from the National Center for Health Statistics, and is based on surveys conducted on ambulatory care in private practice and hospitals. The data set includes patient demographics, symptoms, physician diagnoses, counseling, procedures, and medications, among others.

An analysis of the data indicates that in both private practice and hospital ambulatory care, there is very little counseling on smoking cessation for acknowledged smokers; weight reduction, diet and exercise counseling for the obese; and cholesterol reduction for patients with artherosclerosis. The use of ACE inhibitors, of proven value in the progression of diabetic nephropathy, is considerably lower than that suggested by the guidelines. In addition, the use of aspirin, of known benefit for patients over 50 years and those with coronary artery disease, was not as widespread as recommended. Likewise, the prescription of lipid reducing agents for patients with artherosclerosis was also disappointingly low.

Further analysis by patient gender, race, and age did not yield any additional insight into possible reasons for the deviation from the recommendations. The study illustrates the need for primary care physicians to view each visit as an opportunity for appropriate counseling, as well as an occasion to consider the start of therapy of proven benefit in the reduction of morbidity and mortality in patients with diabetes mellitus – a disease that affects over 8 million Americans.

An Outbreak of Bell's Palsy at a Free Clinic

Lux, A, Family Practice Residency, St. Luke's Medical Center; **Baumgardner, DJ; Carson, L; Murphy, MK;** Department of Family Medicine, St. Luke's Medical Center

Purpose

The annual incidence of Bell's palsy is 20-30/100,000, and lacks seasonality or sex differential. Clusters of cases are extremely rare. Recent evidence suggests herpes simplex virus (HSV)-1 as the etiologic agent of most "idiopathic" Bell's palsy cases. This study characterizes an apparent outbreak of Bell's palsy seen at a free clinic in Milwaukee.

Method

Case identification by clinic chart review, structured interview and HSV and Lyme serology from cases and a clinic control group. Statistical analysis using Epi-Info.

Results

Four cases of Bell's palsy presented to the clinic with dates of onset June 9-July 3, 1997. This represents a 26.7-fold higher than anticipated incidence for the months of June and July. There was no obvious relationship among the cases. Mean IgG HSV and Lyme titers did not differ between three tested cases, and a control group of 15 patients similar in age, sex, zip code and medical history.

Conclusion

An unexplained Bell's palsy outbreak occurred in this free clinic population. This small study failed to identify HSV-1 as the etiologic agent based on IgG serology.

Age Related Muscle Plasticity (Newborn vs. Elder)

Chekanov, VS; Rieder, MA; Karakozov, PE; Milwaukee Heart Institute, Sinai Samaritan Medical Center; Scientific Center of Surgery, Tashkent, Uzbekistan

Using low frequency electrical stimulation, it is possible to transform fatigable skeletal muscle into fatigue resistant muscle which is useful for cardiac assistance. However, when stimulation is stopped, all acquired properties revert to baseline. Is it possible to extrapolate data received in healthy, adult animals to old, sick patients admitted for cardiomyoplasty?

Method

We investigated contractile force (CF), lactate dehydrogenase fractions (LDH), mitochondrial percent (MITO), number of nuclei (# Nuclei) and fibers (# Fibers) in the skeletal muscle of 5-day-old (I), 1-year-old (II) and 8-year-old (III) sheep (4 per group). Right latissimus dorsi (LDM) served as a control; 8 weeks of electrical stimulation (ES) was applied to the left LDM, then stopped for two weeks (Delay). CF was measured after a stress test with the following parameters: 30 min, 6 impulses per burst, 20 g/kg preload, 10 V. Results are presented in the table below.

	CF (%)	LDH-5	LDH-1, 2	MITO	# Nuclei	# Fibers
Control I	54±8	89±1	3.3±0.7	8.5±2.5	888±49	520±28
Control II	57±5	91±3	1.2±0.3	5.2±2.0	517±55	320±45
Control III	46±9	92±4	1.0±0.6	4.2±0.7	431±63	306±33
ES I	93±2	77±4	6.7±1.9	6.5±0.5	1012±76	593±41
ES II	93±3	74±8	8.4±0.4	6.9±1.3	994±52	560±47
ES III	86±5	84±3	3.2±1.1	5.3±0.8	618±91	391±43
Delay I	88±2	68±3	7.2±1.5	5.1±0.4	891±48	536±37
Delay II	67±6	83±3	4.6±0.3	5.1±1.3	576±47	351±41
Delay III	49±4	90±5	2.5±0.4	4.3±1.0	483±37	310±42

Conclusion

Young skeletal muscle obtains more plasticity than adult muscle during ES and "remembers" the obtained properties. Elderly skeletal muscle does not convert to a fatigue-resistant state as completely as adult skeletal muscle during a conventional 8-week ES protocol. It is necessary to use different ES protocols for child, middle-aged and elderly patients.

Coronary Angiography with Small Sized Catheters (4 French instead of 6 French) Provides Early Ambulation, Short Hospital Stay and Reduced Groin Complications

Bhatia, A; Shalev, Y; Milwaukee Heart Institute, Sinai Samaritan Medical Center

Background

Outpatient diagnostic coronary angiography, using small sized catheters, is being increasingly used. There is a trend to use smaller sized catheters in order to avoid puncture site complications and minimize hospital stay. Whereas, 6 French catheters replaced 7 French and 8 French catheters and are currently the standard for diagnostic coronary angiography, recently 4 French catheters have been used in Europe for the same purpose. We carried out a pilot study to assess the efficacy and safety of 4 French catheters for diagnostic coronary angiography.

Method

This is a single operator, single center, prospective pilot study of patients in whom diagnostic coronary angiography was carried out with 4 French catheters. Patients with valvular heart disease requiring right heart catheterization and patients in whom intervention was done (PTCA/STENTS), were excluded from the study.

Technique

We placed 4 French arterial sheath in the femoral artery and1000 units of heparin was administered intra-arterial into the sheath. Diagnostic coronary angiography was performed using 4 French Cordis catheters and left ventriculography performed with 4 French pig tail catheter. The contrast was manually injected using 5.0 millileters syringe. Post procedure, the patients were kept for 2 hours bed rest and then ambulated. All patients were contacted by phone at 24-48 hours post discharge and were examined for any groin complications. The quality of angiograms was assessed by an independent observer. The total contrast load and radiation dose were assesed.

Results
A total of 50 patients underwent successful diagnostic coronary angiography with 4 French catheters. Only 39 patients were analyzed and the remaining 11 patients were excluded due to need for intervention (7 patients) or combined right heart catheterization (4 patients). There were 20 females with a mean age of 57±12 years (range, 39-77). The mean body surface area (BSA) was 1.84±0.4 squaremeters. Diagnostic coronary angiography was successfully performed in all 39 patients without the need to upsize the catheters (including 4 patients with saphenous vein grafts). In two patients, the standard Judkins (JR4) catheter had to be replaced by Amplatz (4 French AR1) catheters to selectively engage the right coronary artery. The mean radiation dose was 56+31 grays/cm2 and the average contrast used was 115+40 milliliters. None of the patients had any groin complications (hematoma, AV fistula or pseudoaneurysm). The quality of angiograms were highly satisfactory as assessed by an independent observer. Our study demonstrates that not only high quality angiograms can be obtained with 4 French catheters but also the bedrest time and the radiation dose can be considerably reduced without compromising the safety of the patient or increasing groin complications. Actually, we had no groin complications in our series of patients. In addition, the total contrast dose used was considerably less in most patients and in the rest comparable to 6 French catheters. Furthermore, the quality of angiograms was not compromised despite the excessive weight of our patient population (mean BSA 1.84 squaremeters).

Conclusion
Our preliminary study suggests that diagnostic coronary angiography can be carried out with 4 French catheters safely and effectively with significantly reduced time to ambulation with decreased groin complications.

Practice Patterns among Obstetricians/Gynecologists in the Management of Multiple Gestations

Hemphill, D; Evans, W; Kirby, R; Dept. of OB/GYN, Sinai Samaritan Medical Center

Background
Twin gestation occurs with a frequency of 1:80 pregnancies; triplets 1:600. With advanced reproductive technologies, we are witnessing an increase in multiple gestation. We also observe the difficulties in

developing management strategies because of wide variations in social and clinical presentations and philosophies of practitioners.

Objective

We sought to determine if there was a uniformity in managing multiple gestations.

Study Design

We surveyed 392 members of the Central Association of Obstetricians and Gynecologists. We presented five case scenarios and a short questionnaire with multiple choice answers. The cases included: 1) antepartum management of an early twin gestation; 2) antepartum management of a diamniotic-dichorionic twin gestation with one dead fetus; 3) antepartum and intrapartum management of a monoamniotic-monochorionic twin gestation; 4) intrapartum management of a cephalic-breech twin gestation; and 5) antepartum management of a quadruplet gestation.

Results

We obtained a 54% response on a single mailing (n=211). 142 (67%) actually completed the survey. Case 1: 62 (44%) used bedrest with or without tocolytics; 44 (31%) responded in the other category, the majority of whom chose transfer to a perinatologist (MFM). Case 2: 85 (59%) chose antenatal testing until 34 weeks followed by delivery; 54 (37%) preferred the other category of which referral to a MFM was the majority choice. Case 3: 61 (44%) chose weekly or twice weekly antenatal testing until 37 weeks followed by delivery; 51 (37%) preferred the other category. Case 4: 58 (41%) preferred vaginal breech extraction of the second fetus and 34 (24%) chose cephalic version. Case 5: 57 (41%) chose selective reduction to twins; 50 (37%) chose other treatments.

Conclusion

In spite of numerous published algorithms to the management of multiple gestation, practice patterns vary widely. There is a wide variation on both antepartum and intrapartum management of multiple gestation.

Routine Blastocyst Culture and Embryo Transfer on Day 5 Achieved High Pregnancy Rate and Reduced The Risk of Multiple Pregnancies Following In Vitro Fertilization

Asakura, H; Katayama, K; Stehlik, E; Stehlik, J; Dessart, A;
The Advanced Institute of Fertility, Milwaukee, WI

Objectives

Assisted reproductive technology has been associated with a high rate of multiple gestations due to transfer of high-number embryos. The cultured human blastocysts on day 5 were shown to have higher implantation efficiency than 4 to 8 cells embryos used in conventional day 2 to 3 ET. Transfer of a limited number of blastocysts may circumvent resulting perinatal complications. The outcomes of day 5 ET were studied.

Materials and Method

Retrospective comparison of clinical and laboratory data from 122 cases of IVF with day 2 or 3 transfer of fresh embryos (January, 1997-March, 1998) and those of 93 cases of IVF with day 5 transfer of fresh embryos (November, 1997-December, 1998).

Results

Between day 2-3 and day 5 ET groups, mean age of patients (33.2 y.o. vs. 33.5 y.o.), mean number of pronuclear embryos per patient (7.5 vs. 8.3), percentage of ICSI cases (58.2% vs. 51.6%) were not statistically different. No day 5 ET was cancelled due to embryo quality. Clinical pregnancy rates of day 5 ET (44.1%, 41/93) was not significantly different from day 2 to 3 ET (38.5%, 47/122). However, significantly fewer embryos were transferred on day 5 than day 2 to 3 (mean 2.8 vs. 3.6, $p<0.01$). Compared to day 2-3 ET, pregnancies after day 5 ET comprise significantly more singleton (82.9% (34/41) vs. 55.1% (27/47), $p<0.01$) and fewer twins (7.3% (3/41) vs. 24.5% (12/47), $p<0.05$). There was a trend with day 5 ET of fewer pregnancy losses and ectopic pregnancies. 71% of day 5 ET cases had at least one blastocyst available for transfer. Clinical pregnancy rate of day 5 ET including blastocyst(s) was higher (48.5% (32/66) with average 2.7 embryos), although not significantly, than that of day 5 ET with dividing non-blastocyst embryo(s) (33.3% (9/27) with average 3.0 embryos). Transfer of total 3 or less embryos including 2 or less blastocyst(s) on day 5 ($n=65$) resulted in 44.6% clinical pregnancy rate with 86.2% singleton (25/29), 6.9% twins (2/29) and

no triplets. Transfer of total more than 4 embryos or more than 3 blastocysts on day 5 (n=28) resulted in 42.9% pregnancy rate with 66.7% singleton (9/12), 8.3% twins (1/12) and 16.7% triplets (2/12).

Conclusion

Routine blastocyst culture can be attempted using commercially available sequential culture media. Compared to the day 2 to 3 ET, day 5 ET achieved equivalent clinical pregnancy rate with fewer embryos, and reduced the risk of multiple pregnancies. Day 5 transfer of total 3 or less embryos including 2 or less blastocysts may enhance these obstetrical benefits. Blastocyst culture may help select embryos efficient in implantation, but absence of blastocyst on day 5 does not warrant cancellation of ET.

A Comparison Between the Perforation Rate of Maloney, Balloon and Savary Dilitation in Esophageal Strictures

Hernandez, LV; Jacobson, J; Harris, MS; Department of Medicine, Section of Gastroenterology, Sinai Samaritan Medical Center

Traditionally, mercury-filled rubber bougies (Maloney) are used for simple, or mild to moderate esophageal strictures, whereas through-the-scope balloon dilators and wire-guided polyvinyl bougies (Savary) have become standard for more complex strictures. Because few comparative trials are available to aid in choosing one method over the another, choice of dilator and technique is largely based on training and experience of the operator. We report our experience with the different modalities used in esophageal strictures.

Method

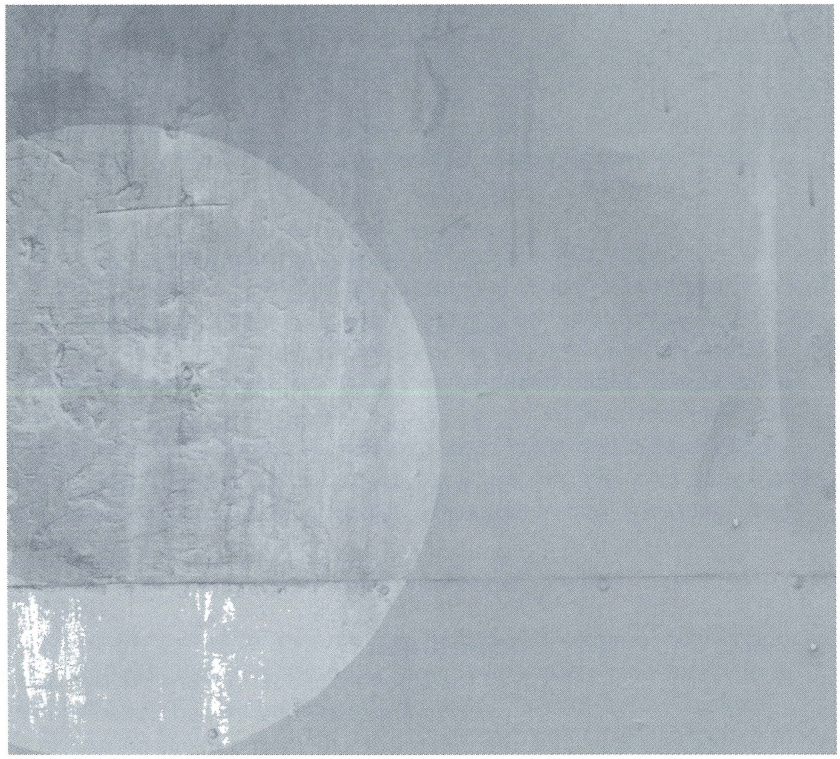
We reviewed 348 esophageal dilatation procedures performed on a total of 142 patients over a four year period (January 1, 1993 to January 1, 1997). The location and cause of stricture, the maximum diameter of the instrument used per session, the rate of perforation, and the rate of flouroscopy use were recorded.

Results

Maloney, balloon (hydrostatic and pneumatic type), and Savary dilatations were performed in 102, 156, and 90 sessions, respectively. The conditions requiring dilatations include: benign strictures and/or rings or webs (103/142, 72.5%), malignant strictures including post-surgical esophageal strictures (26/142, 18.3%), achalasia (7/142, 4.9%), and Nissen's surgery (6/142, 4.2%). Four perforations occurred. All perforations resulted from Maloney instrumentation passed blindly into complex strictures (Fisher's exact test, $p = 0.011$, two-tailed). Immediate surgical outcome was good in all four patients with no mortality.

Conclusion

Perforation seems to be more associated with the use of Maloney bougies passed blindly into complex strictures. Further trials are needed to better substantiate this observation.



Prospective, Blinded Evaluation of the Accuracy of a Stool Test for the Detection of H Pylori

Affi, A; Robinson, J; Vakil, N; Dept. of Gastroenterology, Sinai Samaritan Medical Center

A new non-invasive stool test has become available for the detection of H pylori. We evaluated the stool antigen test now FDA approved for the diagnosis of H pylori infection. There are few data in a US population, little information on the effect of proton pump inhibitors on stool antigen excretion and few data on post-therapy testing.

Method

We report 55 patients in this ongoing study, 41 patients were undergoing endoscopy and stool was obtained within 24 hr of endoscopy in all of them. H pylori status (gold standard) was determined by the rapid urease test (Pyloritek) whose sensitivity and specificity have been studied in our laboratory. 14 patients were studied post-eradication. These patients were asymptomatic and were studied >3 months after eradication therapy. The gold standard in these cases was the breath test. Stool tests (Meridian Diagnostic) were performed by an investigator blinded to the results of the rapid urease and breath tests.

Results

Stool antigen excretion was significantly higher in patients with a positive rapid urease test or breath test (1.30+0.17) than those who were not (0.127+0.08; $p<0.0001$). Stool antigen excretion was similar in patients on PPI ($n = 10$; 0.55+0.32) and those who were not ($n = 45$, 0.617+0.135). There were a total of 31 positive and 44 negatives using the gold standard. In patients who had never been treated ($n = 41$), 35 were correctly identified by the stool test (85%). In the post-treatment group ($n = 14$) all patients were correctly identified by the stool test. For the whole treatment group, the sensitivity of the stool test was 87% with a specificity of 90%. The positive predictive value was 87% with a negative predictive value of 90%. In the post-treatment group alone sensitivity and specificity were 100%.

Conclusion

1. The stool antigen test is sensitive and specific for the detection of H pylori in untreated and treated patients (after three months). 2. Antigen excretion was similar in patients on proton pump inhibitors and those who were not. If this finding is confirmed in this ongoing study, the test

may have an advantage over non-invasive tests that require discontinuation of proton pump inhibitors.
Funding: Meridian Diagnostic

Medical Students' Knowledge and Attitudes Concerning Certified Nurse-Midwives: The Outcomes of Collaborative Education

Tillett, J; Hanson, L; Kirby, R; Department of Obstetrics and Gynecology, Sinai Samaritan Medical Center

Collaborative education is essential for positive collegial relationships between midwives and future physician colleagues. Collaborative practice best meets the needs of patients and is a skill more effectively learned while in training. Prior experience with working with members of other healthcare disciplines is an advantageous prerequisite to effective collaboration. Information concerning the student outcomes of collaborative education is limited.

Purpose

We sought to identify and describe the knowledge and attitudes of third year medical students concerning certified nurse-midwives (CNMs).

Method

A one-page survey instrument was developed for this study; items elicited basic information about CNM education and practice. Third year medical students before and after a six-week obstetrics and gynecology (OB/GYN) rotation at a medical center affiliated with a major Midwestern medical school participated in the study. Rotations included formal clinical and didactic interactions with CNMs. A control group of third year medical students who did have this satellite campus rotation and did not directly interact with CNMs was tested at the same intervals. Pre- and post-rotation responses were compared to identify differences in their knowledge and attitudes concerning CNMs.

Results

Both groups of medical students had limited knowledge of CNMs prior to their OB/GYN rotations. Based on pretest responses, medical students were aware that CNMs independently attend normal births. Medical students who had clinical and didactic contact with CNMs exhibited more

knowledge about CNMs on the post-tests than did the medical students in the control group. In pretest responses, both groups exhibited knowledge deficits related to CNMs use of pharmacotherapeutics in their practices. Those in the control group had little knowledge of CNMs prescriptive authority before or after their rotations. Medical students who had clinical and/or didactic contact with CNMs responded that they would consider working with CNMs in the future; those in the control group did not frequently express this desire.

Conclusion

Direct involvement with CNMs during the obstetrical rotation appears to enhance medical student knowledge of the collaborative roles and complementary skills that CNMs provide in a multidisciplinary obstetrical practice environment.

The Thiazide Zone: Teaching Practice Management Through Humor

Brill, JR, Department of Family Medicine, St. Luke's Medical Center

Practice management has traditionally been a difficult area to teach to residents and students as the motivation for changing behavior differs from the economic incentives of practicing physicians. Practice management continues to increase in importance for the education of students and residents. Regardless of the setting in which graduates practice, physicians will encounter escalating pressures to enhance the quality of care while at the same time decreasing costs. Telephone calls for refills of prescriptions are an unreimburseable cost to a medical office and also increase the risk of error relative to refilling prescriptions at the time of office visits.

In this study, we created a short, humorous videotape demonstrating the utility of refilling prescriptions at the time of office visits. he tape was incorporated into the practice management curricula of the University of Wisconsin Department of Family Medicine in Milwaukee. The primary outcome measure of this approach was a two-way comparison of clinic calls for prescription refills compared to a control clinic (Appleton Family Practice) where a similar content message was given to the residents and faculty – but in a non-humorous fashion. Rates of change were compared between the two clinics and from prior to the study. At one, three and six months, there was a nonsignificant lower ratio of calls in the humor group; however, no overall change from baseline was seen in either group.

The Pill Box: How Well Are We Educating Our Patients About Their Medications? An All Residency Research Project

Burtea, ED; Majid, N; Pribbenow, B; Baumgardner, DJ; Lux, A; Carlson, J; Conty, O; St. Luke's Family Practice Program Residents and Staff, St. Luke's Family Practice Residency, Department of Family Medicine

Purpose

Educated patients appear to be more compliant regarding outpatient medication follow-up, however, there is little in the recent literature regarding how well informed family practice patients are regarding their medications. The purpose of this study is to evaluate how effectively we are educating our patients about their medications.

Method

A written survey was distributed to 400 patients at our urban and central city site family practice centers in Milwaukee. Patients were asked to list their medications, purpose of each medication, at least one side effect they were told about, and whether or not the medication is helping them. Medication tracking mechanisms and their main source of medication information was also asked. Epi-info was used to analyze data.

Results

Rate of return of surveys was 44%. Majority of patients were on one to three drugs; 82% knew the purpose of all of their medications; 51% could not name one side effect of any medication while 26% could name one side effect of all of their medications; 65% felt all of their medications were helping, while 21% felt none of their medications were helping. Sixty-three percent had a medication tracking system. Fifty-one percent received their information from their doctor, NP or PA while 23% received their information from their pharmacist.

Conclusion

We are doing a good job educating patients on the purpose of their medications; however, we need improvement on educating patients on the side effects of their medications. We also need to emphasize the importance of bringing a list of medications to each office visit and need to help our patients keep better track of their medications.

Domestic Violence in the Jewish Community– A Survey of Greater Milwaukee

Wolkenstein, AS, Department of Family Medicine, St. Luke's Medical Center; **Cohn, JH; Jacobson, JW;** Department of Medicine, Sinai Samaritan Medical Center
Presented by **Jennifer Cohn, MLS**

The most common crime in America today is domestic violence. Up to 30% of women presenting injuries to emergency rooms have been identified as victims of battering. Domestic abuse may exist at the same levels in the Jewish Community as in the general community. In 1998, the Wisconsin Jewish Coalition on Domestic Violence sponsored a survey of 3,000 (approximately one-third of the Jewish households) women in the Greater Milwaukee Jewish Community to determine who is affected, what help is sought, what are the outcomes of seeking help and what services are likely to be used. Another questionnaire surveyed all area rabbis to determine their perceptions and training in helping congregation members. The Jewish Community survey had a 24% (n=684) response rate. Thirteen percent of the Community respondents indicated that they had, sometime in their lives, personally experienced domestic abuse or violence. This number is comparable to national numbers. Only half of the people who had a history of abuse told someone about it. Forty-one percent indicated that seeking help made a difference in reducing abuse. Eighty-one percent of all respondents said they would use Jewish Community domestic abuse services, primarily counseling, crisis lines and support groups, if they needed them. A second survey was sent to 62 area rabbis and their spouses. The Rabbinical Survey had a 39% (n=24) response rate. Seventy-one percent reported being told of one or more abusive behaviors occurring in congregation members' households during the past year, but less than half assisted anyone for domestic abuse issues. Only three rabbis (12%) reported they were able to resolve domestic abuse situations on their own. Four respondents (17%) indicated they had formal education on the subject. The majority (83%) said they would attend educational programs, if offered.

Conclusion

Few people in the Jewish Community experiencing domestic abuse seek help from their rabbis. Unfortunately, many women are not telling anyone about the abuse, and when they do, only four in ten feel their situation improves. Significant work needs to be done to reduce the

fear, shame and hopelessness felt by victims and increase the number of those coming forward. Then, we must ensure that the help they receive is both appropriate and effective.

Epidemiology of Human Blastomycosis in Vilas County, Wisconsin II: 1991-1996

Baumgardner, DJ, Department of Family Medicine, St. Luke's Medical Center, **Brockman, K,** Vilas County Health Department

Purpose
A previous report identified Vilas County, Wisconsin, as an area highly endemic for blastomycosis based on a case series 1979-90. This study was done to compare the epidemiologic features of persons with this disease over the following six years.

Method
Compilation of data from the 47 mandatory physician/laboratory case reports of blastomycosis, disease onset 1991-96, received at the Vilas County Health Department; case mapping by site visit; and statistical comparison to the previous series.

Results
The estimated mean annual incidence rate for Vilas County during 1991-96, 40/100,000, remains unchanged from 1984-90. Cases were again disproportionately represented in the southeast corner of the county, and 36/46 lived within ¼ mile of water. There was a trend toward a higher proportion of female cases in this study (27/47) compared to the prior report (28/73; $P=0.06$); the mean age, 47 years, did not differ. Among 32 patients whose activities were recorded, a minority engaged in hunting (4), fishing (4) and gardening (12) prior to disease onset; but 19/32 recalled excavation prior to exposure compared to 17/60 in 1979-90 ($P<0.01$). Among cases with a pulmonary presentation, winter onset causes (3/40) were significantly fewer than in 1979-90 (19/55). However, over the entire 18 years there was no disproportionately represented season.

Conclusion
In highly endemic Vilas County, the mean annual incidence of human blastomycosis appears stable over the past 13 years. A combined case series of 18 years reveals no predilection by gender or season of onset. (Wis Med J, 1998;97(5):44-7).

A Prospective, Controlled Trial of H Pylori Prevalence, Platelet Adhesion in Coronary Artery Disease

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A correlation between H pylori infection and coronary artery disease has been suggested. Studies in mice suggest that H pylori infection induces the formation of leukocyte-platelet aggregates in the gastric microcirculation as result of enhanced expression of a surface adhesion molecule (P selectin) presumably by release of cytokines from the infected mucosa. Platelet activation promotes vascular occlusion by the formation of platelet plugs. The aim of this study was to measure the intravascular platelet activation in patients with and without coronary artery disease and to correlate it with H pylori infection.

Method

One hundred and sixty-two patients undergoing coronary angiography were prospectively studied. Angiograms were read by invasive cardiologists and were graded as normal, one, two and three vessel disease. Serology for H pylori infection was performed using a multiwell ELISA assay. The P selectin assay which measures this adhesion molecule on the surface of platelets was performed by a validated ELISA. Aspirin/NSAIDs do not affect the expression of platelet P selectin receptors. The thrombin/anti-thrombin assay measures intravascular thrombin activation and was determined by a validated ELISA.

Results

Mean+SEM, ANOVA. There were 162 patients (males 55%, females 44%) in the study with a mean age of 59+1 (range 31-85 yr.). There were 42 patients (25%) with normal coronary angiograms, 27 patients with one vessel disease (17%), 32 patients with 2 vessel disease (20%) and 61 patients (38%) with 3 vessel disease. 81 patients were infected with H pylori (50%). The prevalence of H pylori infection was not significantly different: 31% in normal coronary arteries, 12% in patients with one-vessel disease, 21% in 2 vessel disease and 36% in three vessel disease. P-selectin activation (normal <10%) was similar in patients with coronary artery disease and H pylori infection (8.8+0.5%) and without H pylori infection (9+0.4%) and was similar to control subjects without coronary artery disease (8.9+0.6%).

Conclusion

Using a definitive test (coronary angiography) for the demonstration of coronary artery disease, this study demonstrates that sero-prevalence of H pylori infection is not increased in patients with coronary artery disease and that platelet adhesion is not increased by H pylori infection in normal subjects or in patients with coronary artery disease.

Cost Effectiveness of Non-Invasive Testing Methods for H Pylori before in Dyspeptic Patients

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The aim of this study was to evaluate the cost-effectiveness of non-invasive tests for H pylori before and after therapy.

Method

We modeled the cost effectiveness of stool testing, urea breath tests, office serology, ELISA serology and whole blood testing in the initial diagnosis of H pylori infection and the cost-effectiveness of breath testing and stool studies in patients given eradication therapy. Key assumptions in the base case model were: sensitivity (stool 88%, urea breath test 96%, office serology 95%, ELISA 93%, Whole blood test 80%), specificity (stool 90%, UBT 90%, office serology 76%, ELISA 78%, whole blood test 76%) and a prevalence of H pylori infection in 30% of dyspeptic patients. Costs for tests and therapy were based actual costs in Milwaukee. We assumed that half the population with a false negative diagnosis would remain symptomatic and undergo endoscopy, the other half would be treated with acid suppression therapy. For false positives, we assumed that all would be treated with antimicrobials and half would remain symptomatic. Monte Carlo simulation was performed for a hypothetical cohort of 1000 patients.

Results

Mean+SD. Average costs (Monte Carlo simulation) were: office serology = $189+114, stool testing =$191+88 and whole blood testing = $201+128, while ELISA = $252+118, C14 UBT = $220+95, C13 UBT =$373+93. When prevalence of H pylori infection dropped to 19%, the stool test was the most cost-effective of tests because of its higher specificity than office based blood/serum tests. In post therapy testing, stool tests were cost effective with an average cost of $183+97 compared to the C14 breath test ($213+99) or the C13 breath test ($368 +105). These differences were preserved over a wide range of variables as long as the specificity of the stool test was >80%.

Conclusion

1. Stool tests are cost-effective alternatives to office based serologic testing. 2. Their most promising role is in post-therapy assessment. If specificity above 80% is consistently shown in US studies, this would be a cost-effective testing method after therapy.

Prospective, Randomized, Controlled Trial of Covered Expandable Metal Stents in Malignant Esophageal Obstruction

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The aim of this study was to compare partially covered and uncovered metal stents in a randomized controlled trial in patients with malignant esophageal obstruction.

Method

62 patients at 8 centers participated in the study. All patients had malignant inoperable stenosis of the esophagus within two cm of the gastro-esophageal junction. Patients were randomly assigned to covered or uncovered stents. Two FDA approved stents were used: the Microvasive uncovered stent or the Microvasive covered stent which has a polyurethane membrane covering the mid portion of the stent. The principal outcome measure was relief of dysphagia measured by a dysphagia score (Grade 0=no dysphagia, Grade 1= able to eat solid food, Grade 2=semisolids only, grade 3=liquids only, grade 4=complete dysphagia). Secondary outcome measures were performance status measured by the Karnofsky performance score, complications and re-interventions. All patients were followed at monthly intervals until death or 6 months.

Results

Mean+SEM. 1 week after stenting the dysphagia score improved significantly in both the uncovered ($n=32$; $3+0.1$ to $1+0.1$; $p<0.001$) and covered ($n=30$; $3+ 0.1$ to $1+ 0.2$; $p<0.001$). The Karnofsky performance score improved similarly in both groups. Obstructing tumor ingrowth was significantly more likely in the uncovered group (8/30) than in the covered (1/32; $p<0.05$). Food bolus obstruction occurred in 7/30 patients with uncovered stents compared to 2/32 patients with covered stents ($p=0.07$). Significant migration occurred in 2/30 patients with uncovered stents compared to 4/32 patients in the covered group ($p=0.52$). There were 34 re-interventions in 30 patients in the uncovered group for complications or tumor ingrowth compared to 22 in the 32 patients in the covered group ($p=0.19$). Life table analysis showed similar survival in both groups.

High Homocysteine Concentrations is a Risk Factor for Major Adverse Cardiovascular Events and Angiographic Restenosis after Coronary Interventions

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Background

High homocysteine concentrations are an independent risk factor for coronary atherosclerotic disease. However the role of elevated homocysteine concentrations in causing major adverse cardiovascular events and angiographic restenosis after coronary interventions is not known.

Method

80 patients (56 males, 24 females, mean age 64.4 ± 12.8 years), undergoing percutaneous coronary intervention were prospectively followed over a course of 10.2 ± 2.3 months. Fasting plasma homocysteine levels were measured in all patients at the time of coronary intervention using high performance liquid chromatographic technique.

Results

Of all patients, 25 (30%) had any major cardiovascular event (acute myocardial infarction, death or repeat revascularization). Angiographic restenosis (>50% stenosis at site of previous intervention) was observed in 30 (37%) of the patients. Mean homocysteine concentrations were significantly higher in patients with major adverse cardiovascular events compared to patients who did not have any such events (15.4± 5.6 vs. 10.4±4.8 mmoles/L, $p<0.01$). By multivariate analysis high homocysteine concentrations was an independent risk factor for angiographic restenosis (OR 3.6, CI1.2 – 5, $p<0.01$) and major adverse cardiovascular events (OR 4.5, CI2.3 - 6.8, $p<0.01$) after coronary interventions.

Conclusion

High homocysteine concentrations are an independent risk factor for major adverse cardiovascular events and angiographic restenosis after coronary interventions. Since B-vitamins lower plasma homocysteine, further studies are required to evaluate a possible therapeutic role for these substances in lowering restenosis after coronary interventions.

H Pylori, Proton Pump Inhibitors, Intestinal Metaplasia and Gastric Atrophy in Patients with Barrett's Adenocarcinoma

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The aim of this study was to examine the relationship between H pylori infection, proton pump inhibitor use, atrophy and intestinal metaplasia of the fundus in patients with Barretts adenocarcinoma.

Method

We retrospectively studied 40 consecutive resected adenocarcinomas of the distal esophagus and proximal stomach over a 7 year time frame (1991-8). We used the sero-prevalence of H pylori infection in age and sex matched controls without gastrointestinal disease as control. We determined the presence of H pylori infection (determined by H& E stain and a modified Steiner silver stain), gastric inflammation, atrophy, intestinal metaplasia (modified Sydney classification).

Results

Mean + SEM; Fisher's exact test. There were 38 males and two females; mean age was 64±11 years. Sixteen patients had been on treatment with proton pump inhibitors. Seven asymptomatic patients were detected at endoscopy for surveillance of Barretts esophagus. Twenty-eight had adenocarcinomas arising in Barretts epithelium and 12 had gastro-esophageal junction carcinomas. One of the 40 patients had H pylori infection on the silver stain alone. In contrast, 22 of 41 control subjects ($p<0.001$) were infected. Intestinal metaplasia of the fundus of the stomach was present in five of 41 patients (12%), all HP negative. Gastric atrophy was seen in 6/25 patients not taking proton pump inhibitors and 2/15 patients on proton pump inhibitors ($p=0.44$). Intestinal metaplasia of the cardia was seen in 0/15 patients on proton pump inhibitors and 5/25 patients who were not on proton pump inhibitors. Multifocal gastric atrophy was not seen in any of the patients.

Conclusion

1. H. pylori infection is significantly less frequent in patients with Barretts adenocarcinoma than in age and sex matched controls. 2. Intestinal metaplasia in the gastric fundus is found in 8% of patients and is unrelated to proton pump inhibitor use. 3. Surveillance detected a significant proportion of resectable cancers in our population.

Cardiorespiratory Response to Chronic Infusion of Estradiol 17-b (E2b) in Nonpregnant Oophorectomized Sheep During Reductions in Cardiac Output

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Background

We (Evans, et al Am J Physiol, 1998) demonstrated in nonpregnant sheep that E2b increased baseline cardiac output (CO), oxygen delivery (DO2), and oxygen consumption (VO2). In response to reductions in CO, the critical cardiac output (CCO) was elevated and fractional tissue oxygen extraction (O2ER) was impaired. In that study, we sought to determine if the hyperestrogen state of pregnancy reproduces the flow-dependant VO2 and the lack of a CCO we saw in late gestation sheep in response to decreased CO (Evans, et al, Am J Obstet Gynecol, 1996). We **hypothesize** that chronic estrogen treatment will reproduce flow-dependant VO2.

Method

We studied four ewes in a crossover design. We placed flow-directed catheters in the pulmonary artery, balloon-tipped catheters in the right atrium, and polyvinyl catheters in the femoral veins and arteries. Four CO reduction experiments were performed on each sheep; 1) no treatment; 2) acute (2-3 hr) 5mg/kg bolus of E2b; 3) four days of 6mg/kg/day infusion of E2b; and 4) ten days of 6mg/kg/day infusion of E2b. We measured cardiorespiratory variables (CO, DO2, VO2, and O2ER).

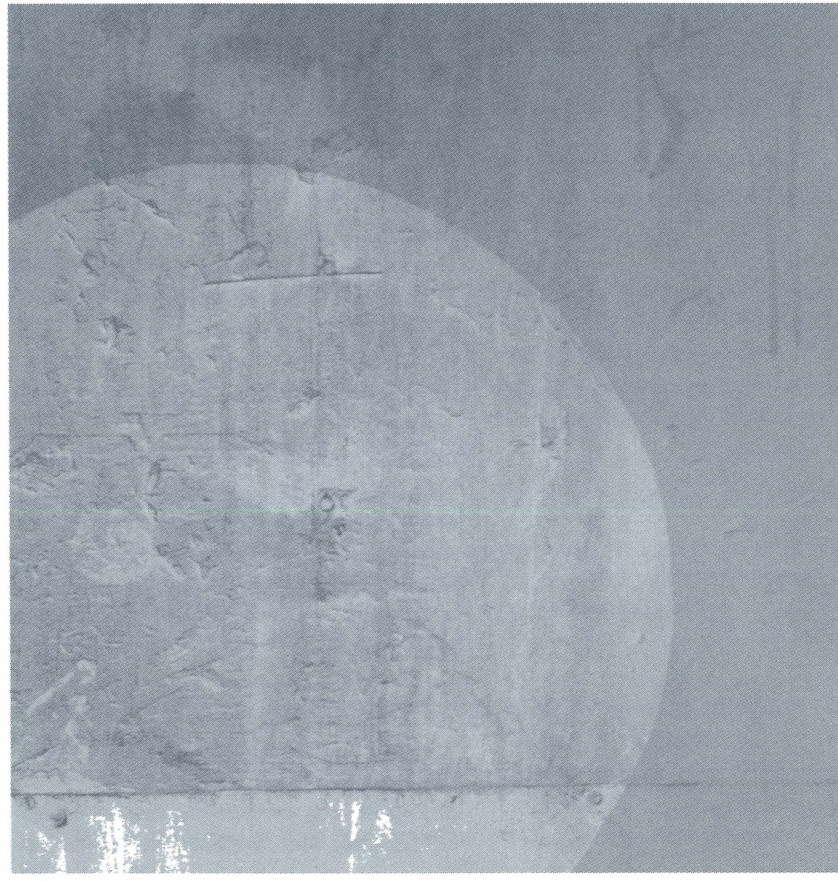
Results

We saw an increased baseline CO in E2b-treated sheep over control (90 ± 2.1 ml/min/kg); E2b: 25% (127.5 ± 4.27); 4-day infusion: 30% (135.4 ± 2.39); 10-day infusion: 42% (162.5 ± 1.25). Baseline VO2 was increased over control (4.46 ± 0.27 ml O2/min/kg); bolus: 30%(6.35 ± 0.42); 4-day: 43% (7.80 ± 0.42); and 10-day: 44% (7.98 ± 0.29). The CCO was elevated in all E2b groups: control: 35.60 ± 2.10 ml/min/kg; bolus: 52.30 ± 0.42; 4-day: 62.40 ±

3.28; and 10-day: 98.26 ± 5.22. The CCO in the bolus and 4-day groups were similar, but significantly higher in the 10-day group. The CO:VO2 curve in the 10-day sheep appeared flow dependant.

Conclusion

Chronic estrogen appears to alter the cardiorespiratory profile to a flow-dependant nature in response to decreased cardiac output. The CO:VO2 relationship in chronic E2b treated sheep closely resembles the profile seen in late gestational sheep. Therefore, the hyperestrogen state of pregnancy may contribute to the oxygen transport characteristics of pregnancy during states of low cardiac output.



Obesity is Associated with an Increased Risk for Cesarean Delivery in a Low-Risk, CNM Patient Population

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While Cesarean delivery (C-section) rates for patients followed by CNMs are low, obese patients may exhibit similar patterns with respect to method of delivery found in several large population-based and hospital studies. We hypothesized that CNM patients with prepregnant body mass index (BMI) >30.0 (obese) are at increased risk for C-section.

Study Population

Patients managed by an inner-city hospital academic CNM practice who delivered during 1994-1998. Among 2,320 patients delivered, BMI data were available for 1,881. For multivariate analysis, 93 cases with missing weight gain data were omitted.

Method

Data was obtained from patient medical records stored in the CNM Gravidata relational database. We classified BMI according to the approach of Cnattingius et al. (1998), and weight gain during pregnancy according to the IOM report on nutrition in pregnancy (1990), modified to provide an upper limit for normal weight gain for obese women based on Parker et al. (1992). Statistical analyses (descriptive analysis, univariate and multivariate logistic regression) were peformed with SAS V6.12 for Windows95. Multivariate models included known risk factors as well demographic, reproductive and intrapartum measures with univariate $p<0.20$, in a backward stepwise logistic regression analysis with inclusion criteria set at $p<0.10$.

Results

The overall C-section rate was 5.1%; for obese patients the rate was 7.4% and for lean patients (BMI <20.0) 3.2%. The unadjusted odds ratio for C-section for obese women was 1.97 (95% C.I. 1.16-3.34). Other factors associated with increased risk for C-section included primigravidity, primiparity, maternal age 35+, short stature (height <155 cm), very low birth weight delivery, failure to progress, breech

presentation, abruption, fetal distress, and severe pre-eclampsia. Race and marital status of mother were not associated with C-section. Adjusted for weight gain, short stature, advanced maternal age, primiparity, and intrapartum complications, the odds ratio for obesity was 3.22 (1.59-6.51, p<01).

Conclusion

Even among low-risk obstetrical patients managed by CNMs, the risk for Cesarean delivery for obese patients and those with excessive weight gain during pregnancy may be increased. The nutritional status of obese pregnant patients should be managed expectantly. Despite the increased risk for Cesarean delivery, obese patients benefit from nurse midwifery care.

Increased P-Selectin Levels Are Associated with Adverse Cardiovascular Events after Interventions for Acute Coronary Syndrome

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Background

P-selectin (PS), a protein found in the membrane of endothelial cells and blood platelets, increases as a marker of platelet activation in response to injury or a foreign substance. We have previously established that platelet PS is higher in patients with acute ischemic syndromes than in those with stable angina. Angioplasty or stent deployment may further increase these levels.

Purpose

To evaluate a possible association of platelet PS increase and recurrence of cardiac events after coronary intervention for acute ischemic syndromes, we prospectively followed all patients (n=50) for one year.

Method

Platelet PS was measured post intervention in all 50 patients using a technique described elsewhere. During follow-up, we divided these patients into two groups: those who experienced angina or recurrent cardiac events and those who remained asymptomatic. Demographic and clinical data as well as angiographic values for the two groups were compared.

Result
The two groups were matched in age and gender as well as in their incidence of hypertension, diabetes, and smoking. At 1 year, 30 remained asymptomatic and 20 patients had cardiac events or recurrent angina. Levels of platelet-PS were found to be significantly higher in this latter group (132 ± 4.2 vs. 10.4 ± 5.6, $p < 0.05$).

Conclusion
Increased levels of platelet P-selectin appear to be associated with increased risk for of cardiac events post intervention in patients with acute ischemic syndromes. A large-scale study is needed to establish this observation.

Umbilical Artery Lactate Concentration as a Predictor of Neonatal Outcome

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Objective
We sought to determine the correlation of umbilical artery lactate concentration to other biophysical, cardiorespiratory and metabolic markers used to diagnose fetal hypoxia and predict neonatal outcome.

Study Design
We performed a prospective longitudinal study evaluating all births in a consecutive six month period. We obtained umbilical artery blood samples immediately after birth from 1818 neonates. We measured lactate concentration, arterial cord gases including pH, PCO2, PO2, HCO3-, and base deficit. We compared these variables to determine the predictability of neonatal outcomes.

Results
Umbilical artery lactate concentrations correlated with both pH and base deficits in determining degree of hypoxia (both $p<0.001$). Using 37-40 weeks gestation as the reference, we noted preterm births (32-36 weeks) were more likely to have lower lactate levels ($p=0.03$) and less likely to have elevated lactate levels ($p=0.016$). Gestations beyond 40 weeks were less likely to have lower lactate levels

($p<0.001$) and more likely to have high lactate levels ($p<0.001$). Lactate concentrations were elevated above normal in cases with five minute Apgars <7 when compared to babies with a five minute Apgar score of ≥7 ($p< 0.001$). Neonates delivered by cesarean section had lower lactate level than those delivered vaginally ($p<0.001$).

Conclusion

Lactate concentration is a readily obtainable metabolic marker for the determination of hypoxia. It may have some predictive and prognostic value in determining the degree of fetal and neonatal distress. Used in combination with other biochemical or metabolic assays, lactate may offer more accurate diagnosis of neonatal compromise. Also, the ease of assay may allow lactate to be used in the diagnosis of fetal hypoxia in the intrapartum period.

Accreditation

St. Luke's Medical Center is accredited by the State Medical Society of Wisconsin to sponsor continuing medical education for its physicians.

St. Luke's Medical Center designates this continuing medical education activity for four credit hours in Category 1 of the Physician's Recognition Award of the American Medical Association and four prescribed hours by the AAFP.