Long-term cyclic and continuous postoperative use of oral contraceptive pills effectively reduces and delays recurrence of ovarian endometriomas.

**Objective:** To evaluate the effectiveness of oral contraceptive (OC) administration, either cyclically or continuously, in preventing ovarian endometrioma recurrence following conservative laparoscopic cystectomy.

**Design:** Randomized, prospective controlled trial.

**Participants:** 239 women undergoing laparoscopic excision of ovarian endometriomas.

**Methods:** Patients were followed for 24 months postoperatively and divided randomly into 3 groups: (1) non-users, (2) cyclic users of OCs, and (3) continuous users of the same low dose monophasic birth control pill. They were followed up with clinical examination and transvaginal ultrasonography.

**Results:** Recurrences in non-users were 29%, in continuous users 8.2%, and in cyclic users 14.7%. Additionally, recurrence-free intervals were significantly shorter in non-users when compared with cyclic and continuous users, and no differences between the cyclic and continuous users.

**Conclusions:** Long-term cyclic and continuous postoperative use of oral contraceptive pills effectively reduces and delays recurrence of ovarian endometriomas on 2-year follow-up.

**Reviewer's Comments:** This was a good study, well designed, with adequate numbers, which I think definitively shows over a 2-year period the efficacy of postoperative oral contraceptive use following conservative surgery for ovarian endometriomas. Though statistical significance wasn't achieved when comparing cyclic versus continuous users, the trend was definitely in favor of superiority of the continuous users. Long-term birth control pills do reduce and delay ovarian endometrioma recurrence. (Reviewer-Berel Held, MD).

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Keywords: Oral Contraceptive, Endometrioma Recurrence

Print Tag: Refer to original journal article
Eating disorders are 5 times higher in the female infertility population than in the general population.

**Objective:** To assess prevalence of eating disorders, current and past, in a female infertility population.

**Design:** Descriptive study based on interview techniques.

**Participants:** 82 patients entering their first follicle stimulating hormone (FSH)/intrauterine insemination (IUI) treatment cycle.

**Methods:** Participants came from a pool of 123 eligible patients, yielding a 67% acceptance rate. Questionnaires involving eating habits, health and lifestyle characteristics, and demographic data were completed.

**Results:** 20.7% of participants met criteria for a past or current eating disorder; this is 5 times higher than the U.S. lifetime prevalence rate for such an entity. Half had eating disorders of non-specified origin and the remainder were divided among anorexia nervosa, bulimia nervosa, and binge eating disorders. None of the participants who fulfilled the criteria for eating disorder had disclosed their past or current eating disorder to their reproductive endocrinologist.

**Conclusions:** The prevalence of an eating disorder is 5 times higher in an infertility population than in the general population; this information is not readily disclosed by the patient, which has implications for both the reproductive endocrinologist and the obstetrician.

**Reviewer's Comments:** This was a simple study based on questionnaires administered to infertile women. What the study showed is that the prevalence of eating disorders, current or past, is 5 times higher in an infertile female population than in the general population at large; and that this disorder is not disclosed to reproductive healthcare providers. (Reviewer-Berel Held, MD).

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**Keywords:** Eating Disorders, Infertility

**Print Tag:** Refer to original journal article
Objective: To evaluate statin use on the occurrence of venous thromboembolism in patients with solid organ cancers.

Design: Retrospective, case controlled study.

Participants: 740 patients with a diagnosis of solid organ tumor.

Methods: Patients had not previously received anticoagulation therapy or ever used statins. Risk factors for venous thromboembolism were identified, statin use recorded, and occurrence of venous thromboembolism were documented.

Results: Overall incidence of venous thromboembolism was 18%; in those receiving statins, prevalence was 8% compared with 29% in controls not receiving statins. Logistic regression analysis confirmed the lowering of the odds ratio (OR) of 0.33 in the statin group, and confirmed risk factors for venous thromboembolism which included metastatic disease, current use of chemotherapy, and immobilization. On logistic regression analysis, neither smoking nor aspirin use appeared to reduce the OR for developing venous thromboembolism.

Conclusions: On retrospective analysis, this study confirms that statin use was associated with a significant reduction in the occurrence of venous thromboembolism in a cancer population.

Reviewer's Comments: There is an accumulating body of evidence suggesting that treatment of dyslipidemia with statins also reduces incidence of venous thromboembolism, perhaps by the ability of statins to provoke an anti-inflammatory response affecting the coagulation cascade. The lowered risk of venous thromboembolism in this cancer population on statins suggests that there may be a primary prevention role of statins in the treatment of cancer patients to diminish their risk for venous thrombotic episodes. Much research is currently being directed this way. (Reviewer-Berel Held, MD).

© 2010, Oakstone Medical Publishing

Keywords: Statin Use, Cancer Patients, Venous Thromboembolism

Print Tag: Refer to original journal article
Whole-Leg Compression Ultrasound Can Guide Anticoagulation


Johnson SA, Stevens SM, et al:

JAMA 2010; 303 (February 3): 438-445

Deep vein thrombosis patients with negative whole-leg compression ultrasound exams and no anticoagulation have a <1% chance of developing thromboembolism within 3 months.

**Objective:** To determine the utility of whole-leg compression ultrasound (US) in determining risk for venous thromboembolism in those patients for whom anticoagulation was not used.

**Design:** Meta-analysis of randomized control trials and prospective cohort studies.

**Participants:** 4731 patients with suspected venous thromboembolism who had undergone negative whole-leg compression US examinations and did not receive subsequent anticoagulation.

**Methods:** 7 studies were identified in which patients with suspected, symptomatic deep venous thrombosis (DVT) underwent whole-leg US. For study inclusion, subjects must have come from a randomized clinical trial or a prospective cohort study and been monitored throughout a pre-specified follow-up period of ≥90 days. In addition, subjects had objective confirmation of venous thromboembolism that occurred during the follow-up period. Data extracted included patient characteristics, number of patients screened, whether or not they were initially positive for DVT or negative for DVT. Incidence rate for venous thromboembolic disorders were estimated by using a regression model and then comparing event rate differences between risk groups. An independent review was conducted by 2 authors for any single positive or negative whole-leg compression US result for the occurrence of venous thromboembolism.

**Results:** Of patients, 647 had active cancer and 725 had undergone major surgery. There were 34 patients in which venous thromboembolism or suspected venous thromboembolism-related death occurred for a rate of 0.7%. Of these patients, 11 had a distal venous thrombosis. Of all patients, combined venous thromboembolism event rate at 3 months was 0.57%.

**Conclusions:** There is a low risk of venous thromboembolism during a 3-month follow-up period in patients who had a single negative whole-leg compression US examination with subsequent withholding of anticoagulation.

**Reviewer's Comments:** Anticoagulation has a host of undesirable side effects. A single compression US examination can miss a distal thrombosis, but a negative result of whole-leg compression US can prevent unnecessary anticoagulation. (Reviewer-John C. Jennings, MD).

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Keywords: Deep Vein Thrombosis, Whole-Leg Compression Ultrasound, Anticoagulation

Print Tag: Refer to original journal article
Stress in the operating room can be assessed accurately and some stressors can be mitigated.

**Objective:** To record the incidence of stressful events occurring in the operating room and assess levels of this stress.

**Design:** Observational study.

**Methods:** 55 orthopedic and general surgical procedures were observed; 2 trained observers recorded and rated stressful events that occurred during the procedures. The surgeons themselves also rated the stressful incidents and level of stress they experienced. Stressors were summarized into 1 of 8 categories: (1) technical factors related to the complexity of the procedure, (2) patient factors relating to overall health, (3) teamwork factors and interpersonal issues, (4) time and management factors, (5) distractions/interruptions, (6) equipment problems, (7) teaching, and (8) personal.

**Results:** Number of stresses occurring per procedure ranged from 1 to 23. High frequency, high stress categories included technical surgical problems, patient problems, and equipment issues. Low stress, low frequency categories were time and management, personal problems, and teaching. There was good correlation between surgeons' experienced stress and observers' perception of stress, with the observer able to capture surgeons' stress accurately.

**Conclusions:** Stress in the operating room can be assessed accurately and some stressors can be mitigated. How stress is handled and the actual impact of stress on surgical performance has yet to be determined.

**Reviewer's Comments:** This was an observational study of stress and stressors occurring during surgery. It is common and the most important stressors relate to the surgical procedure itself, overall condition of the patient, and equipment issues. Though this was strictly an observational study, the real challenge is how to mitigate stress in the operating room and how to have people deal with it in the most constructive way. (Reviewer—Berel Held, MD).

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Keywords: Stress, Patient Safety, Skills, Surgical Education

Print Tag: Refer to original journal article
Pelvic prolapse repair with vaginal mesh is accompanied by a serious complication of vaginal mesh contraction in some patients.

**Objective:** To study the morbidity associated with contraction of vaginal mesh used in management of pelvic organ prolapse.

**Design:** Retrospective case series.

**Participants:** 17 women with vaginal mesh contractions following pelvic organ prolapse surgery.

**Methods:** From January 2007 to December 2008, women undergoing surgery for symptomatic mesh contraction were identified. Presenting symptoms, examination findings, subsequent management, and outcomes were recorded. Patients were evaluated by abdominal palpation, speculum visualization, and quantification of pelvic prolapse. Investigators recorded focal or diffuse tenderness, increased tension on vaginal mesh or presence of bands underneath the vaginal mucosa. Women were treated with conservative management, including topical estrogen therapy, pelvic floor muscle exercises, and vaginal dilators, but in the presence of persistent symptoms, surgical intervention was performed.

**Results:** All women presented with severe vaginal pain with movement, and all had focal tenderness over contracted portions of the vaginal mesh. In the 14 women who were sexually active, all had dyspareunia. Mesh erosion was found in 9 women, and vaginal tightness was noted in 7. Of patients, 5 were found to have vaginal shortening. At the time of surgical intervention, vaginal mesh was mobilized and fixation points were identified and divided with excision of the contracted mesh. There was a reduction in vaginal pain in 15 patients postoperatively, and 9 who complained of dyspareunia prior to the surgical procedure experienced reduction in the dyspareunia postoperatively. Of patients, 3 underwent excision of the entire accessible mesh because of persistence of symptoms.

**Conclusions:** Pelvic prolapse repair with vaginal mesh is accompanied by a serious complication of vaginal mesh contraction in some patients. Surgical intervention is required in patients with persistent symptoms.

**Reviewer’s Comments:** The hypothesis that a vaginal mesh can effectively be used for pelvic prolapse repair is still good. The problem is shrinkage of a mesh material causes significant problems and requires a difficult surgical removal. (Reviewer-John C. Jennings, MD).

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**Keywords:** Vaginal Mesh Contraction, Morbidity, Pelvic Organ Prolapse

**Print Tag:** Refer to original journal article
There is substandard skill in repairing anal sphincter lacerations among ob-gyn residents.

**Objective:** To determine obstetrician-gynecologist (ob-gyn) resident's proficiency in repair of third degree perineal lacerations.

**Design:** Prospective observational study.

**Participants:** 40 ob-gyn residents from 13 residency programs.

**Methods:** Resident physicians who were participating in a regional education day were given a choice of working with a perineal laceration repair model. The type of model that has previously been described was augmented for purposes of this study by adding a layer of bacon to represent the internal anal sphincter. Residents were given the preassembled beef tongue model, instruments, and sutures to choose from for the repair. Each resident was evaluated by 2 experienced physicians using a checklist including repair of the internal anal sphincter, selection of proper suture material, and repair of the external anal sphincter. Resident performance was divided into either a perfect repair, a near perfect repair, an acceptable repair, or an unacceptable repair.

**Results:** Of residents, 17 received an overall pass rate. The remaining 23 missed critical steps in the repair of anal sphincter laceration. There was no significant effect on a pass rate according to year of training, parent residency program, or prior experience of the residents. There was a >90% concordance between evaluators for each resident performance. Resident physicians expressed a satisfaction with the modified beef tongue model as being greater than their current training methods within their programs.

**Conclusions:** There is substandard skill in repairing anal sphincter lacerations among ob-gyn residents. Pass rates in this study reflect inadequate training in perineal laceration repair.

**Reviewer's Comments:** A failure to recognize or to properly repair a third degree perineal laceration has long-term consequences for women. This is a basic skill that should not be neglected by obstetrical training programs. (Reviewer-John C. Jennings, MD).

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Keywords: Anal Sphincter Repair, Resident Proficiency, Perianal Laceration

Print Tag: Refer to original journal article
Risk factors for recurrence of mucinous cystadenoma appear to be intraoperative cyst rupture and use of cystectomy as a primary operation.

**Objective:** To study potential risk factors for recurrence of benign ovarian mucinous cystadenoma following surgical excision.

**Design:** Retrospective cohort study.

**Participants:** 42 women undergoing surgical procedures for benign ovarian mucinous cystadenoma.

**Methods:** Patients were identified from a computerized search from 1996 to 2006, and either underwent laparoscopic or laparotomy removal of mucinous adnexal cysts. Patients were included if either adnexectomy or cystectomy was performed. Demographic data, operative findings, surgical procedural information, and pathologic diagnosis were retrospectively collected from the medical record.

**Results:** Laparoscopic or laparotomy removal of adnexal cysts was performed in 2357 women in a single institution. Of these, 42 women were identified as having mucinous cystadenoma and 3 underwent a second operation because of recurrence of the lesion. All recurrence cases had undergone laparoscopic cystectomy in which the cyst had been ruptured. There was a significant association with cyst recurrence and rupture of cysts at the first operation and also a significantly higher rate of cyst recurrence in those women who had undergone cystectomy versus adnexectomy.

**Conclusions:** Risk factors for recurrence of mucinous cystadenoma appear to be intraoperative cyst rupture and use of cystectomy as a primary operation. Recurrence rate for mucinous cystadenoma appears to be greater than previously reported in the literature.

**Reviewer's Comments:** Based on the findings of this study, adnexectomy may be preferable as the primary surgical procedure in the presence of a mucinous ovarian cyst. (Reviewer-John C. Jennings, MD).

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Keywords: Cystectomy, Mucinous Cystadenoma, Ovary, Recurrence, Spillage

Print Tag: Refer to original journal article
In patients undergoing a trial of labor after cesarean section, fetal macrosomia is associated with an increased risk for failed trial of labor as well as shoulder dystocia, third or fourth degree perineal lacerations, and uterine rupture.

**Objective:** To determine if neonatal birth weight was associated with adverse perinatal outcomes in patients undergoing vaginal birth after cesarean (VBAC).

**Design:** Retrospective study over an approximately 18-year period.

**Methods:** Patients having had a previous cesarean section undergoing trial of labor were evaluated. Patients were stratified into 3 groups according to birth weight: (1) reference group with birth weights <3500 grams; (2) birth weights 3500 to 3999 grams; and (3) birth weight ≥4000 grams. Perinatal outcomes assessed between groups included failed trial of labor, complete uterine rupture requiring cesarean section or postpartum laparotomy, third or fourth degree perineal lacerations, and shoulder dystocia. Rates of adverse perinatal outcomes in groups 2 and 3 were compared to group 1. Variables used for evaluating outcomes included interdelivery intervals (defined as <18 months, 18 to 24 months, and >24 months), labor induction, previous vaginal delivery, maternal age, use of epidural anesthesia, gestational age of ≥41 weeks, previous cesarean section, and previous operative vaginal delivery.

**Results:** 2586 patients underwent a trial of labor with 76.1% having a successful VBAC. Of patients, 1519 (9%) had birth weights of <3,500 grams, 798 (31%) had a birth weight of 3500 to 3999 grams, and 269 (10%) had a birth weight of ≥4000 grams. Both induction and oxytocin use were not associated with uterine rupture. Birth weight was associated with an increased rate of shoulder dystocia, third and fourth degree perineal lacerations, and failed trial of labor in patients with or without previous vaginal delivery. Birth weight was associated with uterine rupture in patients without a previous vaginal delivery. For patients with fetal macrosomia and no prior vaginal delivery, rate of uterine rupture was approximately 3.2%. With a birth weight of ≥4,000 grams, there was an association with all adverse perinatal outcomes. With a birth weight of 3500 to 3999 grams, the association was only with shoulder dystocia and failed trial of labor. Of patients, 9% with macrosomic fetuses had a cesarean section during the second stage of labor compared to 3% in group 1 and 5% in group 2. There were 3 factors associated with uterine rupture: history of a single layer closure, birth weight of ≥4000 grams, and interdelivery interval of <18 months.

**Conclusions:** In patients having had a previous cesarean section, there was a relationship between birth weight especially macrosomia and subsequent failed trial of labor, shoulder dystocia, third or fourth degree perineal lacerations, and uterine rupture.

**Reviewer's Comments:** For women considering a trial of labor after a cesarean section, it appears that an estimated fetal weight should be used in counseling them regarding their risks for successful vaginal birth as well as adverse perinatal outcomes. (Reviewer-Thomas N. Tabb, MD).

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Keywords: Birth Weight, Adverse Obstetrics Outcomes, Vaginal Birth, Cesarean Delivery

Print Tag: Refer to original journal article
Diabetes, Not Obesity Alone Associated With Congenital Malformations

*Fetal Anomalies in Obese Women: The Contribution of Diabetes.*  
Biggio J Jr, Chapman V, et al:

Obstet Gynecol 2010; 115 (February): 290-296

Diabetes may be a significant contributor to the increased rate of congenital malformations in the obese patient.

**Objective:** To determine if the increase in maternal obesity in the obstetric population is associated with an increase in major congenital anomalies and to determine the contribution of diabetes to this increase.

**Design:** Retrospective cross-sectional study over a 15-year period.

**Methods:** 3 time periods of 5 years each were used to compare patients for maternal weight, body mass index (BMI), presence of diabetes, and rate of congenital anomalies. Study was limited to patients that delivered after 20 weeks gestation. Authors used weight at the first prenatal visit of ≥200 pounds as the definition of obesity. Patients were evaluated for presence of diabetes prior to 20 weeks gestation. Both the effect of diabetes and obesity on the rate of fetal anomalies was evaluated. Risks for fetal anomalies attributed to both obesity and pre-gestational diabetes were determined.

**Results:** 41,902 singleton pregnancies were included. During the first 5-year period, there were 14,673 patients; 16,458 patients in the second 5-year period; and 10,771 in the third 5-year period. Percent of patients weighing ≥200 pounds increased from 14.5% in the first period to 21.2% in the second period, and 23.4% in the third period. Pre-gestational diabetes also increased from 1.3% in the first period to 1.7% in the second period to 3.2% in the third period. Relative risk for any anomaly in an obese patient in the first period was 0.85, second period 1.1, and the third period 1.3. Attributable risk of anomalies to obesity in the first period was 0%, second period was 1.8%, and third period was 6.1%. Attributable risk of anomalies for diabetes in the first period was 3.3%, second period 2.1%, and third period 9.2%.

**Conclusions:** Although there has been a temporal increase in maternal obesity and fetal anomalies, it does not appear that obesity alone is responsible for this increase. Prevalence of diabetes has increased and also appears to be significantly associated with this increase in congenital abnormalities.

**Reviewer’s Comments:** Increase in congenital anomalies seen in the obese patient is most likely the result of obesity as well as underlying diabetes. It is well known that hyperglycemia is a major cause of developmental malformations. It is important, therefore, to pre-conceptually screen obese patients for diabetes prior to there being an attempt at pregnancy. (Reviewer-Thomas N. Tabb, MD).

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Keywords: Fetal Anomalies, Obesity, Diabetes

Print Tag: Refer to original journal article
Internal monitoring for uterine contractions in the setting of induced or augmented labor does not change the rate of operative deliveries or adverse neonatal outcomes compared to external contraction monitoring.

Objective: To determine if there was improvement in perinatal outcomes in women undergoing labor induction or augmentation of labor using internal pressure catheter monitoring system versus external monitoring.

Design: Multi-center, randomized controlled trial over an approximately 3-year period.

Participants: 1456 patients with a gestational age >36 weeks.

Methods: Patients had fetus in the vertex presentation, requiring either induction or augmentation of labor with intravenous pitocin. Women with a uterine scar were not eligible for the study. Patients were randomized into 2 groups: internal pressure catheter monitoring or external monitoring. Induction of labor involved amniotomy followed by intravenous pitocin. Primary composite outcome was operative delivery which included either an operative vaginal delivery or a cesarean section. Secondary outcomes included use of anesthesia, total amount of pitocin used, use of antibiotics in labor, interval between randomization to delivery, complications of intrauterine pressure catheter, and adverse neonatal outcomes.

Results: 734 patients were in the internal monitoring group compared to 722 in the external monitoring group. With respect to primary outcome, operative delivery occurred in 31.3% of the internal monitoring group compared to 29.6% in the external monitoring group; no difference. Secondary outcomes were also no different between groups. There were no complications associated with use of internal pressure catheter monitoring. There were no maternal deaths in either group, nor neonatal deaths. Similar outcomes between groups were also present in both induced and augmented labor as well as for both primiparous versus multiparous patients. Similar outcomes were present regardless of induced or augmented labor, parity, or body mass index.

Conclusions: With either induced or augmented labor, use of internal monitoring for uterine contractions did not decrease the rate of operative deliveries or adverse neonatal outcomes compared to using external contraction monitoring.

Reviewer's Comments: There are numerous organizations that recommend the use of intrauterine monitoring for contractions during labor either induced or augmented. This study would not support routine use of internal monitoring for contractions during either induced or augmented labor and even in patients with excessive body mass index. (Reviewer-Thomas N. Tabb, MD).

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Keywords: Outcomes, Internal/External Tocodynamometry, Labor

Print Tag: Refer to original journal article
In an asymptomatic twin gestation, a decrease in cervical length by 20% over at least a 2-week period increases the risk for preterm delivery.

Objective: To determine if the change in cervical length measurements sonographically determined in asymptomatic twin gestations was predictive of preterm delivery.

Design: Retrospective cohort study over a 3-year period.

Methods: All twin gestations were identified that had an initial cervical length measurement from 18 to 24 weeks gestation and a subsequent cervical length measurement within 2 to 6 weeks. All patients were asymptomatic. Difference in cervical length from initial to repeated exam was determined and a percentage calculated. Of patients, 2 groups were evaluated: those with a shortened cervical length (defined as cervical shortening that decreased by ≥20%) and those without significant cervical shortening (defined as either no change or a change of <20%). Primary outcomes evaluated included preterm delivery <32 weeks gestation. Secondary outcomes included preterm delivery <28 weeks, <30 weeks, and <34 weeks gestation.

Results: 19 patients were in the shortened cervical length group and 102 in the stable cervical length group. Mean gestational age at delivery in the shortened cervical length group was 33.86 weeks compared to 35.92 weeks in the stable cervical length group. Spontaneous delivery <28 weeks gestation occurred in 15.8% of the shortened cervical length group compared to 1% in the stable cervical length group. Spontaneous preterm delivery <30 weeks was seen in 15.8% of the shortened cervical length group compared to 2% in the stable group. Spontaneous preterm delivery <32 weeks gestation was seen in 31.6% of the shortened group compared to 5% of the stable group. Finally, spontaneous preterm delivery <34 weeks gestation occurred in 36.8% of the shortened cervical length group compared to 12.9% in the stable group. Overall, in the shortened cervical length group, spontaneous preterm delivery <32 weeks gestation was increased 6 fold. Even if the repeated cervical length was >25 mm, those patients in the shortened cervical length group still delivered at an earlier gestational age with an increased risk of preterm delivery prior to 28, 30, and 32 weeks gestation.

Conclusions: If cervical length decreases by 20% from an initial measurement followed by a measurement at least 2 weeks apart, there is an increased risk of preterm birth even if cervical length is considered normal.

Reviewer's Comments: It appears from this study that serial cervical length measurements are predictive of early preterm delivery in asymptomatic twin gestations. If the cervical length decreases by ≥20%, this may be predictive of early preterm delivery even if the cervical length is >25 mm (Reviewer-Thomas N. Tabb, MD).

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Keywords: Spontaneous Preterm Birth, Asymptomatic Twin Pregnancies, Cervical Length

Print Tag: Refer to original journal article
Resolution of symptoms and a negative low-sensitivity pregnancy test provide adequate follow-up of medical abortion in most cases without the use of ultrasonography.

**Objective:** To evaluate follow-up of early medical abortion without the use of routine ultrasonography.

**Design:** Prospective, multi-center cohort trial.

**Participants:** 4484 women seeking medical abortion.

**Methods:** Women presenting within 63 days from their last menstrual period who desired first trimester termination were treated with 200 mg of mifepristone followed by self administered 800 mcg of misoprostol. Prior to returning for follow-up visit, each woman completed a symptom diary documenting their medical experiences. Each patient was asked to document whether or not pregnancy tissue was expelled and to indicate her experience with bleeding. At follow-up visit, the symptom diary was reviewed by a clinician, a physical examination was conducted, and the clinician then documented their final assessment without knowledge of the results of ultrasonography and urine pregnancy test. Investigators used 5 model algorithms for the evaluation of the post-abortion status. Of algorithms, 4 relied upon data collected by the woman and results of the low sensitivity pregnancy test. The fifth algorithm relied on patient assessment, result of the pregnancy test, and follow-up by physician assessment.

**Results:** Of patients, 3054 women had adequate data for evaluation. Of these, 20 (0.7%) had an ongoing pregnancy test; 26 (0.9%) underwent curettage for retained tissue with empiric treatment for possible infection of both of these; 55 (1.8%) received some sort of additional medical abortion related treatment. Women who received interventions during or after follow-up were identified by screening algorithms that included patient observation outcomes, a low-sensitive pregnancy test, and a clinical evaluation as were those women who underwent sonography.

**Conclusions:** A combination of low- sensitivity pregnancy test and clinical examination can accurately assess necessary care for follow-up of medical abortion without the use of ultrasonography.

**Reviewer's Comments:** A criteria for enrollment in this study was ≤9 weeks gestational age with the proven medical abortion regimen. This study reiterates a primary tenet of the practice of medicine in that clinical observation can often equal or exceed the validity of a technologic study. (Reviewer-John C. Jennings, MD).
Menstrual blood loss is a reflection of hormonal effect on the endometrium. Any condition that alters female cyclic hormone production will inevitably alter the volume of menstrual blood loss.

**Objective:** To determine variations and menstrual blood loss associated with menstrual cycle irregularity and hormone levels.

**Design:** Prospective case control study.

**Participants:** 77 healthy menstruating women aged 21 to 55 years.

**Methods:** Participants were recruited between June 2001 and 2004 to participate in a prospective study intended to measure menstrual blood loss before and during the menopausal transition. Recruited for controls were 21 women aged 21 to 35 years who had a history of regular menstrual cycles. This group was compared with 56 late-reproductive age and menopausal-transition females aged 45 to 55 years with variable cycle characteristics. Patients were excluded if they had a history of hirsutism, abnormal prolactin levels, abnormal thyroid function, amenorrhea for ≥ 3 months, smoking within the previous 12 months, chronic illness, hormone or oral contraceptive therapy within the previous 6 months, a body mass index of >35, and recent excessive weight loss. Controls were considered to be mid-reproductive age group. The late-reproductive age group included 17 patients, the early-menopausal transition included 16 patients, and the late-menopausal transition group included 23 patients. Investigators collected serum hormone levels for estradiol, progesterone, follicle stimulating hormone, luteinizing hormone, and inhibins. All were collected and measured 3 times per week from the start of 1 menstrual cycle to the end of the subsequent menstrual period. A colorimetric method was used to measure menstrual blood loss. Estradiol, progesterone, follicle stimulating hormone, inhibin A, and inhibin B were all measured according to standard techniques.

**Results:** There were 9 anovulatory cycles in the late-menopause transition group, 1 in the early-menopause transition, 0 in the late-reproductive age group, and 2 in the mid-reproductive age group. Menstrual blood losses after ovulatory cycles were 30.0 ml for mid-reproductive age, 33.0 for late-reproductive age, 55.7 ml for early-menopausal transition, and 68.9 ml for late-menopausal transition. Following an anovulatory cycle in the late-menopausal group, menstrual blood loss was only 11.8 ml. There was significantly higher menstrual blood loss in the late-menopausal transitional group following ovulatory cycles. High levels of estradiol in women in late-menopausal transition resulted in the highest menstrual blood loss measurements.

**Conclusions:** Irregular cycles are associated with variability of menstrual blood loss. Late-menopausal transition and high levels of estradiol are associated with excessive menstrual blood loss.

**Reviewer’s Comments:** Follicular recruitment without development of a dominant follicle results in continuing high levels of estradiol production. In otherwise healthy females, menstrual blood loss is a direct reflection of abnormalities in hormone production. (Reviewer-John C. Jennings, MD).

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Objective: To identify variables that can be incorporated into a risk-adjusted perioperative morbidity model for vaginal hysterectomy.

Design: Retrospective, cohort study.

Participants: 712 patients undergoing vaginal hysterectomy.

Methods: Records were reviewed for subjects undergoing vaginal hysterectomy from January 2004 through December 2005. All patients had a vaginal hysterectomy for benign indications, with and without salpingo-oophorectomy, or other accompanying procedures. Data were extracted for demographics, medical status, perioperative findings, surgical procedures, and complications within 9 weeks after the surgery. Investigators identified composite medical and surgical diagnosis including a history of congestive heart failure, myocardial infarctions, or thrombotic events. They created a resultant model that was validated from a computer generated random sample of 100 women undergoing vaginal hysterectomy for benign indications. Multivariate regression analysis identified factors that were associated with perioperative morbidity after adjusting for the presence of urinary tract infection.

Results: Of patients, 139 (19.5%) had significant morbidity either associated with congestive heart failure, prior myocardial infarction, perioperative hemoglobin decrease of >3.1 g/dL, preoperative hemoglobin of <12.0 g/dL, and a history of thrombosis. Observed rates in the validation sample were similar to predicted morbidity in the risk-adjusted morbidity model.

Conclusions: Increased perioperative complications with vaginal hysterectomy are associated with a history of congestive heart failure, myocardial infarction, prior thrombosis, perioperative hemoglobin decrease or perioperative hemoglobin of <12.0 g/dL. Improvement in surgical outcome for this procedure can be accomplished by modifying these variables.

Reviewer's Comments: Congestive heart failure or prior myocardial infarction had an odds ratio of 13.0 for perioperative morbidity. This is an impressive "red flag" when considering surgical procedures in patients with this pre-existing risk. (Reviewer-John C. Jennings, MD).

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The surgeon’s finger can feel a fibroid that the eye cannot see. A small incision that will allow palpation of the uterus enhances the myomectomy procedure.

**Objective:** To compare myomectomy performed either by open laparotomy or by an ultraminilaparotomy (UMLT) or by a laparoscopic-assisted UMLT.

**Design:** Prospective cohort study.

**Participants:** 437 patients with benign uterine myomas treated with myomectomy.

**Methods:** Patients were recruited from January 2002 through December 2003, who either underwent laparotomy, UMLT, or laparoscopic-assisted UMLT for myomectomy. Laparotomy group included patients who had a Pfannenstiel incision with 8 to 12 cm transverse length. In the UMLT, incision length was <4 cm. With the laparoscopic-assisted myomectomy, pneumoperitoneum was established and allowed for easier identification of uterine fibroids by the fingers or hands through a small wound. Investigators compared cervical parameters, immediate postoperative recovery, and therapeutic outcomes.

**Results:** There were significant advantages in the 2 modified approaches as compared to conventional open laparotomy for the management of complicated uterine fibroids. In those patients with fibroids <8 cm in diameter and <5 in number undergoing the UMLT approach or the laparoscopically-assisted UMLT approach there was significantly less postoperative pain and better recovery. These patients also experienced a shorter period of paralytic ileus, a shorter time until removal of the closed wound vacuum reservoir, and a shorter hospital stay. The lowest recurrence rate for fibroids occurred in patients who had undergone laparoscopic-assisted UMLT.

**Conclusions:** The management of fibroids <8cm in size and <5 in number, can be successfully performed by UMLT technique or laparoscopic-assisted UMLT instead of open laparotomy.

**Reviewer’s Comments:** This manuscript itself does not adequately describe the technique of laparoscopic-assisted UMLT. However, the idea of being able to palpate the fibroids and still be able use the laparoscope can account for the low recurrence rate with this technique. (Reviewer-John C. Jennings, MD).

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Keywords: Myomectomy, Laparotomy, Ultraminilaparotomy

Print Tag: Refer to original journal article
Does Patient Lipoprotein Profile Affect Cancer Survival?

Serum Low-Density Lipoprotein Levels Correlate with Survival in Advanced Stage Epithelial Ovarian Cancers.

Li AJ, Elmore RG, et al:

Gynecol Oncol 2010; 116 (January): 78-81

Pretreatment low-density lipoprotein levels may have prognostic significance regarding ovarian cancer survival.

Objective: To characterize lipid profiles in women with advanced epithelial ovarian cancer and correlate these levels with survival and prognostic factors.

Design: Retrospective study. Participants: 132 patients with stages 3 or 4 epithelial ovarian cancer who had frozen serum samples available.

Methods: Patients on concurrent statin therapy were excluded. Frozen serum was assayed for levels of total cholesterol, high-density lipoprotein (HDL), triglycerides, and low-density lipoproteins (LDL) calculated by subtraction of triglyceride and HDL from total cholesterol levels. Of patients, 119 (92%) underwent optimal cytoreductive surgery.

Results: 26% of patients had elevated LDL levels and 48% had elevated HDL levels. Median progression-free survival for patients with normal HDL levels was 27 months compared to 12 months for patients with elevated LDL levels. Overall survival was statistically longer in patients with a normal LDL (59 months) compared with those with elevated LDL (51 months). Multivariate analysis confirmed that LDL was a significant and independent predictor of survival after controlling for age, stage, grade of tumor, and suboptimal surgical cytoreduction.

Conclusions: This retrospective evaluation of a single pretreatment LDL level suggests a relationship between lipoprotein profiles and survival in advanced epithelial ovarian cancer.

Reviewer's Comments: This was a retrospective study based on a single LDL determination pre-therapy and involved a relatively small cohort of patients. However, it adds evidence to the role of dyslipidemia in affecting cancer survival, and suggests that statin use may influence epithelial ovarian cancer biology through alteration of lipoprotein profiles. As noted in other reviews, use of statins in influencing cancer survival and as a cancer preventive, is being actively researched. (Reviewer-Berel Held, MD).

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Keywords: Low-Density Lipoprotein Levels, Ovarian Cancer, Survival

Print Tag: Refer to original journal article
Metformin May Be Useful for Treatment, Prevention of Endometrial Cancer

Metformin Is a Potent Inhibitor of Endometrial Cancer Cell Proliferation -- Implications for a Novel Treatment Strategy.

Cantrell LA, Zhou C, et al:

Gynecol Oncol 2010; 116 (January): 92-98

Metformin inhibits endometrial cancer cell proliferation in vitro.

Objective: To assess the in vitro effect of metformin on proliferation, apoptosis, and expression of key targets of metformin cell signaling in endometrial cancer cell lines.

Methods: 2 endometrial cancer cell lines were utilized in these laboratory experiments whereby cell proliferation was assessed following exposure to metformin. Cell cycle progression was evaluated and cell apoptosis was measured.

Results: Metformin inhibited cell growth in a dose-dependent fashion in both endometrial cancer cell lines. Induction of apoptosis occurred as a result of metformin exposure, and treatment with metformin decreased phosphorylation of a key protein enzyme.

Conclusions: Metformin in the laboratory is a potent inhibitor of cell proliferation in endometrial cancer cell lines and was capable of inducing apoptosis at high concentrations. This suggests the drug may have potential application in endometrial cancer prevention and treatment.

Reviewer's Comments: The molecular pathway in cell proliferation and apoptosis is complicated; molecular mechanisms of action of metformin are complicated as well. Metformin is a key agent in first line therapy for type II diabetes and a useful drug in the treatment of polycystic ovarian syndrome. It is an insulin sensitizer and there is lots known about this primary effect on individuals with obesity, diabetes, or polycystic ovarian disease. However, its effect on the endometrium has been little explored and this laboratory investigation is a good first step to provide some scientific foundation for future clinical trials of metformin in endometrial cancer treatment and perhaps, prevention. (Reviewer-Berel Held, MD).

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Keywords: Metformin, Endometrial Cancer, Telomerase

Print Tag: Refer to original journal article
The joint effect of obesity and teenage pregnancy enhances the risk for preeclampsia.

**Objective:** To assess the joint effect of young maternal age and obesity on risk of pregnancy-induced hypertension.

**Design:** Retrospective, cohort study.

**Methods:** Data were derived from the state of Florida birth files during years 2004 to 2007 and included singleton births only in women from 20 to 44 weeks gestation. Study sample included 291,000 evaluable women aged 13 to 24 years. They were divided into 4 weight categories based on pre-pregnancy body mass. Non-obese mothers aged 20 to 24 years comprised the reference group. Regression models were generated to validate an association between preeclampsia, obesity, and maternal age with other sociodemographic variables. Pregnancy complications were also assessed.

**Results:** Prevalence of obesity was 17.5% and increased with age. Prevalence of preeclampsia was 5% and the risk of preeclampsia and eclampsia increased significantly with increasing body mass index and decreasing age. Extremely obese teenagers were nearly 4 times as likely to develop pregnancy-induced hypertension compared with non-obese controls. Obesity elevates the risk of for preeclampsia and this risk is enhanced by young age at pregnancy.

**Conclusions:** Obesity prevention strategies are important in reducing the risk of preeclampsia, particularly in a young teen population.

**Reviewer's Comments:** This was a retrospective epidemiologic study re-emphasizing the association of young age and obesity on the risk of developing preeclampsia during pregnancy. It is not new information, but it is presented in a new context. There are no markers for the prediction of preeclampsia, and women at risk are identified on the basis of broad epidemiologic characteristics. Being a young teenager who is obese and pregnant has many risks. Though we can't prevent teenagers, we can work at preventing obesity and teenage pregnancy. (Reviewer - Berel Held, MD).

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Keywords: Preeclampsia, Obesity, Adolescence

Print Tag: Refer to original journal article
Planned Vaginal Delivery of Twins Have Similar Outcomes to Planned C-Section

*Active Second-Stage Management in Twin Pregnancies Undergoing Planned Vaginal Delivery in a U.S. Population.*

Fox N, Silverstein M, et al:

Obstet Gynecol 2010; 115 (February): 229-233

In twin gestations, there is no difference in outcomes in patients having planned cesarean section versus planned vaginal delivery if appropriate selection criteria are met.

**Objective:** To determine if there was any difference in perinatal and neonatal morbidities in a group of twin gestations undergoing planned cesarean delivery versus those that are allowed to labor for a planned vaginal delivery.

**Design:** Retrospective study over an approximately 4-year period.

**Methods:** Obstetric records of all twin gestations were reviewed. Twin gestations in which vaginal delivery was not attempted included those with a non-vertex presenting twin, non-vertex second twin that had an estimated fetal weight of <1500 grams, and a non-vertex second twin that had an estimated fetal weight 20% greater than twin A. Patients were separated into 2 groups: planned vaginal delivery and planned cesarean delivery. Patients had an epidural catheter placed as well as continuous fetal heart rate monitoring. Patients delivered in the operating room in order to have close availability of equipment in the event of cesarean section. If twin B was non-vertex presentation, operators were trained in using complete breech extraction and internal version. Primary outcome was a 5-minute Apgar score <7 for twin B. Secondary outcomes included a 5-minute Apgar score <7 for twin A and 1-minute Apgar score <7 as well as umbilical arterial cord pH <7.2 for both twins.

**Results:** 157 patients were in the planned cesarean section group and 130 in the planned vaginal group. In the planned cesarean section group, a twin B 5-minute Apgar score <7 occurred in 0.6% compared to 3.1% in the vaginal delivery group -- no difference. In the vaginal delivery group, there were no patients that had a vaginal delivery for the first twin followed by a cesarean section for the second twin. Breech extraction of twin B was performed in 70% of patients. There was 1 birth injury: a fractured humerus that occurred during a breech extraction. There was no difference in outcomes between the planned cesarean section and planned vaginal delivery group. In the planned vaginal delivery group, 15.4% had a cesarean section in labor. Rate of adverse neonatal outcomes was no different in those in the planned vaginal delivery group delivering vaginally versus those in the planned vaginal delivery group delivered by cesarean section.

**Conclusions:** In twin gestations, neonatal outcomes do not differ in patients having a planned cesarean section versus those having a planned vaginal delivery.

**Reviewer's Comments:** The important aspect of this study is that certain strict criteria were met prior to attempting vaginal delivery of a twin gestation. These included the use of epidural anesthesia, continuous fetal monitoring, availability of facilities for emergency cesarean section, and an obstetrician experienced in delivering a non-vertex second twin. (Reviewer-Thomas N. Tabb, MD).

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Keywords: Second-Stage, Twin Pregnancies, Vaginal Delivery

Print Tag: Refer to original journal article
Both a daily gentamicin regimen as well as an every 8-hour regimen is similar in the ability to treat intrapartum chorioamnionitis.

**Objective:** To compare the efficacy of 2 gentamicin regimens for the treatment of intrapartum chorioamnionitis.

**Design:** Double blind, randomized controlled trial.

**Participants:** 125 patients with intrapartum chorioamnionitis.

**Methods:** After patients were diagnosed with intrapartum chorioamnionitis, they were randomized to 1 of 2 groups. The first group received daily gentamicin at a dose of 5 mg/kg intravenously (IV). A second saline placebo dose was given at 8 hours and 16 hours. The second group received a gentamicin dose every 8 hours with a loading dose of 2 mg/kg IV and subsequently followed by 1.5 mg/kg dose at 8 hours and 16 hours. All patients also received ampicillin at 2 gm IV every 6 hours for a total of 4 doses. If a cesarean section was performed, clindamycin was added to the antibiotic regimen. Histologic evaluation of the placenta was also conducted to evaluate for histologic chorioamnionitis. Primary outcome evaluated was the resolution of the chorioamnionitis after 16 hours of treatment and no development of endometritis. Infants were subsequently evaluated for any signs of sepsis.

**Results:** There were 62 patients in the daily gentamicin group and 63 patients in the 8-hour gentamicin group. There was no difference between groups with respect to primary outcome. Of patients, 93.6% in the daily gentamicin group and 88.9% in the 8-hour gentamicin group had chorioamnionitis successfully treated without developing endometritis. Rate of endometritis, duration of fever, maximum maternal fever, rate of cesarean section, postpartum hemorrhage and length of stay were no different between groups. Histologic chorioamnionitis was seen in 51.9% of the daily gentamicin group compared to 59.6% in the 8-hour gentamicin group; no difference. Of patients, 11 did not achieve the primary outcome; 9 developed endometritis, 4 of which were in the daily gentamicin group and 5 in the 8-hour gentamicin group. Of the 9 patients developing endometritis, 8 had a cesarean section: 4 from the daily gentamicin group and 4 from the 8-hour gentamicin group. Neonatal outcomes were no different between groups including no difference in 5-minute Apgar scores, neonatal sepsis, umbilical cord pH <7, days of antibiotic use, or incidence of respiratory distress syndrome. Hearing tests for all newborns were also normal.

**Conclusions:** Both a daily gentamicin regimen as well as an 8-hour regimen are equally effective for treating intrapartum chorioamnionitis.

**Reviewer's Comments:** Daily gentamicin dosing has been shown in some studies to decrease costs as well as decrease the need for aminoglycoside surveillance. Since there appears to be a similar efficacy in treatment with a decrease in medical costs, daily dosing appears to be a preferred alternative. (Reviewer-Thomas N. Tabb, MD).

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Keywords: Gentamicin, Dosing, Intrapartum Chorioamnionitis

Print Tag: Refer to original journal article
Timing Is Key for Perimortem C-Section Following Maternal Cardiac Arrest

Cardiac Arrest in Pregnancy: Increasing Use of Perimortem Cesarean Section Due to Emergency Skills Training?

Dijkman A, Huisman CMA, et al:

BJOG 2010; 117 (February): 282-287

Timely performance for perimortem cesarean section will assist in maternal resuscitation as well as increase the chance for neonatal survival.

Objective: To evaluate cases of perimortem cesarean section and to determine if this procedure was used more frequently after management of obstetric emergencies trauma course was introduced to the Netherlands.

Design: Retrospective study over a 15-year period.

Methods: Cases occurred between August 1993 and August 2008. In 2004, the management of obstetric emergencies and trauma course was made available to clinicians. Each case of perimortem cesarean section was evaluated. Primary outcomes were the incidence and fatality rate of perimortem cesarean section.

Results: 55 women had a cardiac arrest. Of these, 12 underwent perimortem cesarean section. Patients were separated into 2 groups: the first had a perimortem cesarean section and the second were comprised of those not undergoing perimortem cesarean section. There were 12 women in the perimortem cesarean section group and 43 without perimortem cesarean section. Before the introduction of the training course, only 4 perimortem cesarean sections were performed out of 32 cases of resuscitation for cardiac arrest over an 11-year period. After the introduction of the course, there were 23 cases of resuscitation and 8 had perimortem cesarean sections over a 5-year period. Of all patients, 8 (15%) survived: 2 in those patients undergoing perimortem cesarean section for a rate of 17% and 6 in those patients who did not have a perimortem cesarean section for a rate of 14%. Maternal case fatality rate with perimortem cesarean section was 83%. From 2004 to 2006, the rate for perimortem cesarean section was 75%. In the perimortem cesarean section group, 5 neonates survived, for a neonatal case fatality rate of 58%. All survivors were born <30 minutes of maternal cardiac arrest. There were no maternal survivors after 15 minutes of resuscitation and no neonatal survivors after 30 minutes. Of the women undergoing perimortem cesarean section, none were completed <5 minutes. Of patients undergoing perimortem cesarean section, 8 regained cardiac output after the procedure.

Conclusions: Since the introduction of a training course for using perimortem cesarean section in a cardiac arrest, the number of cases has increased; however, there continued to be an issue with timely performance as well as poor maternal and neonatal outcomes.

Reviewer’s Comments: It is paramount that the clinician understands the place of perimortem cesarean section in resuscitation after cardiac arrest. It serves both to increase maternal cardiac output as well as to improve intact neonatal survival. The perimortem cesarean section should be performed within 5 minutes of arrest in order to markedly improve subsequent neonatal outcome. (Reviewer-Thomas N. Tabb, MD).

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Keywords: Cardiac Arrest, Critical Care, Perimortem Cesarean Section, Pregnancy

Print Tag: Refer to original journal article
Objective: To determine prevalence and subsequent perinatal outcome of a nuchal translucency >99th percentile in twin gestations with normal fetal karyotype.

Design: Prospective study over a 4-year period.

Participants: 206 consecutive twin gestations undergoing first trimester nuchal translucency measurement.

Methods: The inter-twin difference in both crown rump length and nuchal translucency was determined. If the first trimester screen showed an increase risk for Down syndrome, patients were offered fetal karyotyping. Main outcome was prevalence of twin gestations with a nuchal translucency >99th percentile and perinatal outcomes.

Results: Of participants, 166 were dichorionic and 40 monochorionic; 10 pregnancies had 1 fetus with a nuchal translucency >99th percentile and normal karyotype. Of these, 5 were dichorionic pregnancies and 5 were monochorionic pregnancies. This resulted in a 1.5% prevalence in dichorionic pregnancies of twin fetuses with nuchal translucency of >99th percentile and a normal fetal karyotype; in monochorionic pregnancies, this prevalence was 6.25%. In 4 pregnancies, there was an inter-twin difference of >10% in the crown rump length. All had a poor perinatal outcome. In all 10 pregnancies, the inter-twin nuchal translucency difference was >20%. Among the 10 pregnancies with an increased nuchal translucency, 6 (60%) had structural anomalies. Of these, 3 were dichorionic and 3 were monochorionic. There were 2 intrauterine fetal deaths; again, 1 in a monochorionic twin and 1 in a dichorionic twin. There was a normal fetal outcome in only 2 pregnancies: 1 monochorionic, 1 dichorionic. In the 40 original monochorionic pregnancies, twin-twin transfusion developed in 4 (10%), but none were fetuses with a nuchal translucency >99th or >95th percentile.

Conclusions: In a dichorionic twin gestation with a normal fetal karyotype, prevalence of nuchal translucency >99th percentile is similar to singleton pregnancies. In monochorionic twin gestations, prevalence was increased compared to singleton gestations. If the nuchal translucency was >99th percentile with a normal fetal karyotype in a twin gestation, there was an 80% chance of either a fetal anomaly and/or fetal demise.

Reviewer's Comments: An increased nuchal translucency in a twin gestation with a normal fetal karyotype is more common in monochorionic twins than dichorionic twins. The authors did not find an increased risk of twin-twin transfusion with an increased nuchal translucency in monochorionic twins, although there was an increased risk for a fetal demise and/or structural anomalies. (Reviewer-Thomas N. Tabb, MD).

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Keywords: Fetal Abnormalities, Nuchal Translucency, Multiple Pregnancy, Karyotype

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