

Abstracts

Treatment of Subclinical Hypothyroidism or Hypothyroxinemia in Pregnancy

A total of 677 women with subclinical hypothyroidism underwent randomization at a mean of 16.7 weeks of gestation, and 526 with hypothyroxinemia at a mean of 17.8 weeks of gestation. In the subclinical hypothyroidism trial, the median IQ score of the children was 97 (95% confidence interval [CI], 94 to 99) in the levothyroxine group and 94 (95% CI, 92 to 96) in the placebo group ($P=0.71$). In the hypothyroxinemia trial, the median IQ score was 94 (95% CI, 91 to 95) in the levothyroxine group and 91 (95% CI, 89 to 93) in the placebo group ($P=0.30$). In each trial, IQ scores were missing for 4% of the children. There were no significance between-group differences in either trial in any other neurocognitive or pregnancy outcomes or in the incidence of adverse events, which was low in both groups.

Conclusions: Treatment for subclinical hypothyroidism or hypothyroxinemia beginning between 8 and 20 weeks of gestation did not result in significantly better cognitive outcomes in children through 5 years of age than no treatment for those conditions.

Key words: Subclinical Hypothyroidism, Hypothyroxinemia, Pregnancy.

Source: Brian M Casey et al. *Treatment of Subclinical Hypothyroidism or Hypothyroxinemia in Pregnancy.* *N Engl J Med* March 2, 2017; 376:pp 815-825. DOI: 10.1056/NEJMoa1606205.

Enoxaparin for the prevention of preeclampsia and intrauterine growth restriction in women with a history: a randomized trial

An open-label randomized controlled trial was done between 26.7. 2010 to 28. 10. 2015, in 5 tertiary care centers in 3 countries. A total of 156 participants were included in the study to assess the effectiveness of enoxaparin in addition to high-risk care for the prevention of preeclampsia and small-for-gestational-age pregnancy in women with a history of these conditions.

Women with a viable singleton pregnancy between 6 - 16 weeks at high risk of preeclampsia and/or small for gestational age based on their obstetric history. Eligible participants were randomly assigned in a 1-to-1 ratio to standard high-risk care or standard high-risk

care plus enoxaparin 40 mg (4000 IU) by subcutaneous injection daily from recruitment until 36 weeks or delivery, whichever occurred sooner. In all, 149 participants were included in the outcome analysis (72 receiving standard high-risk care plus enoxaparin and 77 receiving standard high-risk care only).

(Standard high-risk care was defined as care coordinated by a high-risk antenatal clinic service, aspirin 100 mg daily until 36+0 weeks, and—for women with prior preeclampsia—calcium 1000-1500 mg daily until 36 weeks).

Seven women who miscarried <16 weeks' gestation were excluded. The majority of participants (151/156, 97%) received aspirin. The addition of enoxaparin had no effect on the rate of preeclampsia and/or small-for-gestational-age <5th customized birth weight percentile: enoxaparin 18/72 (25%) vs no enoxaparin 17/77 (22.1%) (odds ratio, 1.19; 95% confidence interval, 0.53–2.64). The primary outcome was a composite of preeclampsia and/or small-for-gestational-age <5th customized birth weight percentile. There was no difference in any of the secondary outcome measures.

Conclusion: The use of enoxaparin in addition to standard high-risk care does not reduce the risk of recurrence of preeclampsia and small-for-gestational-age infants in a subsequent pregnancy.

Key words: enoxaparin, fetal growth restriction, low-molecular-weight heparin, preeclampsia,

Source: Groom KM, McCowan LM, Mackay LK, et al. *Enoxaparin for the prevention of preeclampsia and intrauterine growth restriction in women with a history: a randomized trial*

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Incidence, management and outcomes of cardiac arrest in pregnancy in the UK: The CAPS Study: a prospective, descriptive study.

The study was done to estimate the incidence of cardiac arrest in the UK obstetric population, describing how cardiac arrest in pregnancy is managed

and report maternal and fetal outcomes. Using the UK Obstetric Surveillance System (UKOSS), researchers identified 66 women who had experienced a cardiac arrest in pregnancy among 2.3 million who gave birth between 2011 and 2014.

Total 66 women were involved in the three year study. Cardiac output was restored in 48 and 49 women had a peri mortem caesarean section (PMCS). The results also show that time from collapse to PMCS was significantly shorter in women who survived. 58 babies were delivered, 12 were stillborn. 12 of the 16 women (75%) who had a cardiac arrest following obstetric anaesthesia were obese (BMI $\geq 30\text{kg/m}^2$). The study also shows that hypovolaemia, venous thromboembolism and amniotic fluid embolism are the main non-anaesthetic causes of cardiac arrest. In addition, of the 66 women who had cardiac arrest in pregnancy, 27 had co-morbidities like asthma, mental health problems, cardiac disease, hypertension, haematological, autoimmune and endocrine problems.

Conclusion : Studies show that the single, biggest association of maternal cardiac arrest is a complication of anaesthesia.

Key words : *Incidence, management ,outcomes , cardiac arrest in pregnancy , CAPS Study.*

Source: *VA Beckett, M Knight, and P Sharpe. Incidence, management and outcomes of cardiac arrest in pregnancy in the UK: The CAPS Study: a prospective, descriptive study.*

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Maternal Outcome with Discontinuation of Magnesium Sulfate immediately Postpartum in Severe Preeclampsia.

In a prospective-randomized study, women with severe preeclampsia attending the Jawaharlal Nehru Medical College, Aligarh, India, between January 2013 and September 2014 were enrolled. The inclusion criteria were blood pressure of at least 160/110 mm Hg after 24 weeks and either of the following: Proteinuria (dipstick value ≥ 1), platelet $<100,000$, and serum transaminase levels twice as normal.

Study included 48 patients in the study group and 43 patients in the control group. Participants were assigned to control and study groups according to

the time of enrollment (6-month blocks). All patients received MgSO_4 loading dose (4 gm intravenously), followed by maintenance doses (1 gm/hour) until delivery (study group) and 24 hours (control group). The primary outcome was occurrence of convulsions after completion of MgSO_4 therapy. Patients with treatment failure were excluded from analyses.

Conclusion: For women with severe preeclampsia, discontinuing MgSO_4 immediately after delivery could effectively prevent convulsions.

Keywords: Convulsions, Magnesium sulfate, Severe preeclampsia.

Source: Anjum S, Gade PR, Garg N, Bano I, Alvi Y. Maternal Outcome with Discontinuation of Magnesium Sulfate immediately Postpartum in Severe Preeclampsia. J South Asian Feder Obst Gynae 2017; vol 9(2): pp 78-81. International Scientific Journals from Jaypee.

Management and outcome of cervical cancer diagnosed in pregnancy

Cervical cancer is the third most common gynecologic malignancy in the United States. Approximately 1-3% of cervical cancers will be diagnosed in pregnant and peripartum women; A retrospective review of all patients diagnosed with cervical cancer in pregnancy were matched with contemporaneous no pregnant women of the same age diagnosed with cervical cancer of the same stage at 1:2 ratio.

In all, 28 women diagnosed with cervical cancer during pregnancy were identified from 1997 through 2013. The majority were Stage IB1. In all, 25% (7/28) of women terminated the pregnancy; these women were more likely to be diagnosed earlier in pregnancy (10.9 vs 19.7 weeks, $P = .006$). For those who did not terminate, mean gestational age at delivery was 36.1 weeks. Pregnancy complications were uncommon. Complication rates in pregnant women undergoing radical hysterectomy were similar to those outside of pregnancy. Time to treatment was significantly longer for pregnant women compared to no pregnant patients (20.8 vs 7.9 weeks, $P = .0014$) but there was no survival difference between groups (89.3% vs 95.2%, $P = .08$). Women who underwent gravid radical hysterectomy had significantly higher estimated blood loss than those who had a radical hysterectomy in the postpartum period (2033 vs 425 mL, $P = .0064$),

but operative characteristics were otherwise similar. None of the pregnant women who died delayed treatment due to pregnancy.

Conclusion: For women undergoing radical hysterectomy in the peripartum period, complication rates are similar to nonpregnant women undergoing this procedure .

Key words: cancer in pregnancy, cervical cancer, gravid hysterectomy, oncology in pregnancy, radical hysterectomy

Source: Catherine A , Neil S. Annekathryn G, Whitfield B. *Management and outcome of cervical cancer diagnosed in pregnancy. AJOG. March 2017 Volume 216, Issue 3, Pages 276.e1–276.e6*

Prognostic factors for assisted reproductive technology in women with endometriosis-related infertility

A retrospective observational cohort study was done among 359 consecutive endometriosis patients undergoing in vitro fertilization or intra cytoplasmic sperm injection, from June 2005 -February 2013 at a university hospital. Endometriotic lesions were classified into 3 phenotypes—superficial peritoneal endometriosis, endometrioma, or deep infiltrating endometriosis—based on imaging criteria (transvaginal ultrasound, magnetic resonance imaging); histological proof confirmed the diagnosis in women with a history of surgery for endometriosis. In all, 359 endometriosis patients underwent 720 assisted reproductive technology cycles. In all, 158 (44%) patients became pregnant, and 114 (31.8%) had a live birth. The clinical pregnancy rate and the live birth rate per embryo transfer were 36.4% and 22.8%, respectively. The endometriosis phenotype had no impact on assisted reproductive technology outcomes. After multivariate analysis, history of surgery for endometriosis (odds ratio, 0.14; 95% confidence ratio, 0.06–0.38) or past surgery for endometrioma (odds ratio, 0.39; 95% confidence ratio, 0.18–0.84) were independent factors associated with lower pregnancy rates. Anti-müllerian hormone levels <2 ng/mL (odds ratio, 0.51; 95% confidence ratio, 0.28–0.91) and antral follicle count <10 (odds ratio, 0.27; 95% confidence ratio, 0.14–0.53) were also associated with negative assisted reproductive technology outcomes.

Conclusion: The endometriosis phenotype seems to have no impact on assisted reproductive technology

results. An altered ovarian reserve and a previous surgery for endometriosis and/or endometrioma are associated with decreased pregnancy rates.

Key words: assisted reproductive technologies, endometriosis phenotypes, ovarian reserve, pregnancy, surgery.

Source: Chloé M, Pietro S, Vanessa G et al. *Prognostic factors for assisted reproductive technology in women with endometriosis-related infertility. AJOG, March 2017. Volume 216, Issue 3, Pages 280.e1–280.e9.*

DOI: <http://dx.doi.org/10.1016/j.ajog.2016.11.1042>

Factors for autism spectrum disorder in a large cohort study of 10-year-old children born at 23-27 weeks' gestation

This prospective multicenter (14 institutions in 5 states) birth cohort study included children born at 23-27 weeks' gestation in 2002 to 2004 who were evaluated for autism spectrum disorder and intellectual disability at age 10 years. Pregnancy information was obtained from medical records and by structured maternal interview. Cervical-vaginal "infection" refers to maternal report of bacterial infection (n = 4), bacterial vaginosis (n = 30), yeast infection (n = 62), mixed infection (n = 4), or other/unspecified infection (n = 43; eg, chlamydia, trichomonas, or herpes).

In all, 889 of 966 (92%) children recruited were assessed at age 10 years, of whom 857 (96%) were assessed for autism spectrum disorder; of these, 840 (98%) children were assessed for intellectual disability. Only Autism spectrum disorder alone was diagnosed in 3.2% (27/840), autism spectrum disorder with intellectual disability was found in 3.8% (32/840), only intellectual disability alone in 8.5% (71/840). Maternal report of presumed cervical-vaginal infection during pregnancy and lowest gestational age category (23-24 weeks) was associated with increased risk of both autism spectrum disorder with intellectual disability (odds ratio, 2.7; 95% confidence interval, 1.2–6.4) and (odds ratio, 2.9; 95% confidence interval, 1.3–6.6) respectively. and autism spectrum disorder only in low gestation age (odds ratio, 4.4; 95% confidence interval, 1.7–11). Severe fetal growth restriction was strongly associated with increased risk for autism spectrum disorder only (odds ratio, 9.9;

95% confidence interval, 3.3–30), whereas peripartum maternal fever was uniquely associated with increased risk of intellectual disability (odds ratio, 2.9; 95% confidence interval, 1.2–6.7).

Conclusion: low gestational age, severe fetal growth restriction, maternal cervical-vaginal infection, peripartum maternal fever all are associated with increased risk for autism spectrum disorder with or without intellectual ability.

Key words: autism, intellectual disability, extremely preterm delivery, fetal growth restriction, cervical-vaginal infection.

Source: *Robert M. Steven J Elizabeth N. Extremely low gestational age and very low birth weight for gestational age are risk factors for autism spectrum disorder in a large cohort study of 10-year-old children born at 23-27 weeks' gestation. AJOG. . March 2017. Volume 216, Issue 3, Pages 304.e1–304.e16. DOI:*