Obstetrics
Current Awareness Newsletter
December 2015

Outreach
We can help with literature searching, obtaining journal articles and books, and setting up individual current awareness alerts. We also offer one-to-one or small group training in literature searching, accessing electronic journals, and critical appraisal.

Literature Searching
We provide a literature searching service for any library member. For those embarking on their own research it is advisable to book some time with one of the librarians for a 1 to 1 session where we can guide you through the process of creating a well-focused literature research and introduce you to the health databases access via NHS Evidence. Please email requests to library@uhbristol.nhs.uk

Books
Books can be searched for using SWIMS our online catalogue at www.swims.nhs.uk.

Inter-Library Loans
Books and journals that are not available on site or electronically may be requested from other locations. Please email requests to: ills@UHBristol.nhs.uk
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Click here American Journal of Obstetrics and Gynecology  
Click here Obstetrics and Gynaecology |
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| Latest Cochrane Systematic Reviews | First trimester serum tests for Down’s syndrome screening  
Prenatal interventions for congenital diaphragmatic hernia for improving outcomes  
Rosalie M Grivell, Chad Andersen, Jodie M Dodd  
Online Publication Date: November 2015  
Use of biochemical tests of placental function for improving pregnancy outcome  
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Oral anti-diabetic pharmacological therapies for the treatment of women with gestational diabetes  
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Planned early delivery versus expectant management of the term suspected compromised baby  
Diana M Bond, Adrienne Gordon, Jon Hyett, Bradley de Vries, Angela E Carberry  
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Nutritional advice for improving outcomes in multiple pregnancies  
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Cervical ripening before first trimester surgical evacuation for non-viable pregnancy  
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**Specialised antenatal clinics for women with a multiple pregnancy for improving maternal and infant outcomes**
Jodie M Dodd, Therese Dowswell, Caroline A Crowther
Online Publication Date: November 2015

**Ethanol for preventing preterm birth in threatened preterm labor**
David M Haas, Amanda M Morgan, Samantha J Deans, Frank P Schubert
Online Publication Date: November 2015

**Reduction of the number of fetuses for women with a multiple pregnancy**
Jodie M Dodd, Therese Dowswell, Caroline A Crowther
Online Publication Date: November 2015

**Multiple-micronutrient supplementation for women during pregnancy**
Batool A Haider, Zulfiqar A Bhutta
Online Publication Date: November 2015

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**UptoDate**

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**Literature Search**

**Search History:**
1. EMBASE; ("Intrapartum care" OR pre-eclampsia OR "preterm labour" OR "multiple pregnancy" OR "maternal medicine" OR "fetal abnormal*" OR "fetal growth").ti,ab; 31141 results.
2. EMBASE; 1 [Limit to: Latest Update and English Language]; 20 results.

**Title:** Placental expression of heparan sulfate 3-O-sulfotransferase-3A1 in normotensive and pre-eclamptic pregnancies

**Citation:** Placenta, November 2015, vol./is. 36/11(1218-1224), 0143-4004;1532-3102 (November 2015)

**Author(s):** Amraoui F., Hassani Lahsinoui H., Boussata S., Keijser R., Veenboer G.J.M., Middeldorp S., Van Der Post J.A.M., Ris-Stalpers C., Afink G.B., Van Den Born B.J.H.

**Language:** English

**Abstract:** Introduction The endothelial glycocalyx, consisting of membrane-bound proteoglycans and attached glycosaminoglycans plays an important role in vascular homeostasis. We aimed to assess whether glycocalyx mRNA transcripts are differentially expressed in placental tissue of pre-eclamptic and normotensive women.

Methods We evaluated the expression of transcripts encoding for proteins involved in glycocalyx synthesis and degradation using a microarray analysis of placental mRNA obtained from pre-eclamptic and normotensive women. Participants were recruited from the department of obstetrics at a university hospital in Amsterdam, The Netherlands. The most prominent differentially expressed transcript was validated by qPCR on 112 additional placenta samples. Results Of 78 preselected genes involved in glycocalyx synthesis and degradation, only HS3ST3A1 mRNA was differentially expressed in placental tissue obtained from pre-eclamptic women (N = 12) compared to normotensive women (N = 12, fold change = 0.61, p = 0.02). Validation with qPCR in additional placental samples of 64 normotensive and 48 pre-eclamptic women confirmed that normalized mRNA expression of HS3ST3A1 was decreased by 27% (95% CI 14%-41%) in placental tissue obtained from pre-eclamptic compared to normotensive women (p < 0.001). HS3ST3A1 expression was positively correlated with neonatal birth weight in normotensive women (r = 0.35, p < 0.01) and inversely correlated with mean arterial pressure of women with pre-eclampsia (r = 0.32, p = 0.02). Conclusions The mRNA expression of HS3ST3A1, which encodes for a 3-O sulfating enzyme of heparan sulfate (3-OST-3A1), is decreased in pre-eclamptic placental tissue. Expression of this glycocalyx synthesis transcript is correlated with maternal blood pressure and neonatal birth weight, suggesting a possible role in pre-eclampsia-associated placental dysfunction.
**Title:** Potential targets for the treatment of preeclampsia

**Citation:** Expert Opinion on Therapeutic Targets, November 2015, vol./is. 19/11(1517-1530), 1472-8222;1744-7631 (02 Nov 2015)

**Author(s):** Oyston C.J., Stanley J.L., Baker P.N.

**Language:** English

**Abstract:** Introduction: Preeclampsia is a disorder of pregnancy, typically characterized by hypertension and proteinuria observed after the 20th week of gestation. Preeclampsia has dire consequences for both maternal and neonatal health: it is associated with 50,000 - 100,000 annual deaths globally, as well as serious fetal and neonatal morbidity and mortality, including increased risk of fetal growth restriction and still birth. Despite the severe health, social, and economic costs of preeclampsia, currently the only curative therapy is delivery of the baby and placenta, which itself carries the associated risks of premature birth. The lack of treatments for this condition is attributable to a number of causes, including but not limited to: a partial understanding of the complex pathophysiological mechanisms underlying this complex disease; an inability to sensitively predict women who will go on to develop the disease; and a paucity of robust animal models with which to test new treatments. Areas covered: Recently, progress has been made in identifying potential new therapeutic targets. This review will discuss in detail the evidence supporting further investigation of these targets, which include angiogenic factors, agents that increase vasodilation, anti-inflammatory drugs, substances that reduce oxidative stress, and statins. Expert opinion: New therapeutic targets have the potential to make a significant positive impact on maternal and neonatal health. It is exciting that a number of potential therapies are currently being investigated; however, it is also vital that basic research continues to identify potential mechanisms and targets, and that any potential therapy is thoroughly tested before progression to clinical trial.

**Title:** Placental expression of the insulin receptor binding protein GRB10: Relation to human fetoplacental growth and fetal gender

**Citation:** Placenta, November 2015, vol./is. 36/11(1225-1230), 0143-4004;1532-3102 (November 2015)

**Author(s):** Mukhopadhyay A., Ravikumar G., Dwarkanath P., Meraaj H., Thomas A., Crasta J., Thomas T., Kurpad A.V., Sridhar T.S.

**Language:** English

**Abstract:** Introduction: Imprinted genes play an important role in mammalian fetoplacental growth and development. We have evaluated whether the placental expression of two imprinted genes, growth factor receptor-binding protein 10 (GRB10) and pleckstrin homology-like domain, family A, member 2 (PHLDA2) correlate with human fetoplacental growth parameters. Methods Placentae (n = 77) were collected from small-for-gestational-age (SGA) and appropriate-for-gestational-age (AGA) for gestational age full-term singleton pregnancies (n = 36 SGA and 41 AGA). Placentae and neonates were weighed at birth. Realtime quantitative PCR was performed to assess placental transcript abundance of GRB10 and PHLDA2 normalized to a panel of reference genes. Results Placental GRB10 transcript abundance associated positively with placental weight (r = 0.307, P = 0.007), birth weight (r = 0.267, P = 0.019) and neonatal head circumference (r = 0.280, P = 0.014). Placental GRB10 transcript levels were significantly lower in male SGA placentae compared to the male AGA placentae. Placental PHLDA2 transcript abundance did not show any associations with maternal, placental or neonatal parameters. Discussion Placental GRB10 expression was found to be associated positively with placental weight, birth weight, and neonatal head circumference, especially in males. Hence, we speculate that placental GRB10 plays a role in...
regulating fetoplacental growth and thereby in the pathophysiology of fetal growth restriction in the context of fetal gender.

**Publication Type:** Journal: Article

**Source:** EMBASE

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**Title:** Anti-angiogenic collagen fragment arresten is increased from 16 weeks' gestation in pre-eclamptic plasma

**Citation:** Placenta, November 2015, vol./is. 36/11(1300-1309), 0143-4004;1532-3102 (November 2015)

**Author(s):** Yong H.E.J., Murthi P., Wong M.H., Kalionis B., Brennecke S.P., Keogh R.J.

**Language:** English

**Abstract:** Introduction Arresten and canstatin are endogenous anti-angiogenic factors derived from type IV collagen alpha-chains COL4A1 and COL4A2 respectively. While their functions are explored in cancer studies, little is known about their role in pregnancy. Pre-eclampsia (PE) is a common, serious hypertensive disorder of pregnancy that is characterised by systemic endothelial dysfunction. COL4A1 and COL4A2 are maternal PE susceptibility genes that have increased mRNA expression in PE decidua. Our study aim was to determine the levels of arresten and canstatin in plasma and decidua from PE and gestational age matched normotensive patients. Methods Plasma was collected from normotensive (n = 44) and PE (n = 39) women during the second and third trimesters of pregnancy. Third trimester decidua was collected at delivery from normotensive and PE women (n = 4 each). Levels of arresten and canstatin were determined by Western immunoblotting. Results Arresten levels were significantly increased in second and third trimester PE plasma, and in third trimester PE decidua (p < 0.05). Third trimester PE plasma arresten levels also significantly correlated with the need for MgSO\(_4\) treatment, where a 1.7 fold increase was observed in patients requiring MgSO\(_4\) treatment (p < 0.05). No significant change in canstatin levels was observed between normotensive and PE patients. Discussion This is the first study to report significant increases in the levels of collagen fragment arresten in PE plasma and decidua. Given its significant increase before the onset of clinical disease and associations with clinical severity in the third trimester, arresten may be a useful biomarker for predicting PE and monitoring its severity.

**Publication Type:** Journal: Article

**Source:** EMBASE

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**Title:** Placental 11beta-Hydroxysteroid dehydrogenase type 2 expression: Correlations with birth weight and placental metal concentrations

**Citation:** Placenta, November 2015, vol./is. 36/11(1212-1217), 0143-4004;1532-3102 (November 2015)

**Author(s):** Mikelson C., Kovach M.J., Troisi J., Symes S., Adair D., Miller R.K., Salafia C., Johnson K., Lin Z., Richards S.

**Language:** English

**Abstract:** Introduction Infants born below 2500 g are classified as low birth weight. Excess in utero exposure to cortisol has been linked to restricted fetal growth. Placental production of 11beta-hydroxysteroid dehydrogenase type 2 (11beta-HSD2) inactivates cortisol before passage into the fetus. The present study tested the hypothesis that placental 11beta-HSD2 expression is positively correlated with an individualized birth weight centile and raw birth weight, and examines the relationship between metal concentrations in placental tissue and 11beta-HSD2 expression. Methods Placentae from 191 births were collected and samples preserved to maintain mRNA profile. Placental 11beta-HSD2 expression was measured via qRT-PCR. Addition samples were collected from placental tissues and uniformly dried in order to quantify 18 metals via ICP-MS (n = 160). Results A significant, positive correlation between 11beta-HSD2 expression and individualized birth weight centile (p = 0.0321) and birth weight (p = 0.0243) was found. Additionally, maternal age and gestational age were positivity correlated with each other (p = 0.0321). Birth weight was significantly different with race, marital status, education and
maternal tobacco use. Four metals (Co, Mn, Ni, Zn) demonstrated significant positive correlations (p < 0.05) with 11beta-HSD2 expression. Sex specific differences were found; Co, Cu, Fe, Zn, and Ni were positively correlated with 11beta-HSD2 expression in males only, no significant correlations were found in the female only sample. Conclusion: These data indicate that the growth potential of a fetus is related to the 11beta-HSD2 expression in the placenta, and that 11beta-HSD2 expression is related to the trace metals status of the mother.

Publication Type: Journal: Article

Source: EMBASE

Title: Frequency of preterm delivery in proteinuric verses non proteinuric pregnancy induced hypertension

Citation: Journal of the Pakistan Medical Association, November 2015, vol./is. 65/11(1178-1181), 0030-9982 (November 2015)

Author(s): Sheikh S., Haq G., Kazi S.

Language: English

Abstract: Objective: To compare the frequency of preterm labour associated with gestational proteinuric hypertension versus gestational non-proteinuric hypertension. Methods: The prospective cohort study was conducted at the Department of Obstetrics & Gynaecology, Dow University of Health Sciences and Civil Hospital Karachi, from April 1 to September 30, 2012, and comprised primigravidas of more than or equal to 20th weeks of gestation having blood pressure >140/90 mm Hg. Those with gestational hypertension with proteinuria represented the exposed group, while the non-exposed group had primigravidas with gestational hypertension without proteinuria. SPSS 10 was used to analyse data. Results: There were 112 subjects, with 56(50%) in each of the two groups. Mean maternal age in exposed group was 28.3 +/- 4.49 years and in the non-exposed group 26.08 +/- 0.04 years. Mean gestational age in the exposed group was 36.89 +/- 4.04 weeks and in the non-exposed group 37.75 +/- 3.428 weeks. Women with gestational hypertension with proteinuria were more likely to deliver preterm infants compared to women with gestational hypertension without proteinuria (p=0.009). Conclusion: Gestational proteinuric hypertension increased the risk of preterm labour, therefore vigilant monitoring of gestational proteinuric hypertension is important.

Publication Type: Journal: Article

Source: EMBASE

Title: Frequency and factors leading to recurrent pre-eclampsia

Citation: Journal of the Pakistan Medical Association, November 2015, vol./is. 65/11(1173-1177), 0030-9982 (November 2015)

Author(s): Emanuel M., Butt S.

Language: English

Abstract: Objective: To determine the frequency and factors leading to recurrent preeclampsia. Methods: The cross-sectional study was conducted at the Jinnah Post Graduate Medical Centre, Karachi, from January 2011 to February 2012, and comprised parous subjects <40 years of age with history of preeclampsia in previous pregnancy/pregnancies with singleton pregnancy and gestational age of >20 weeks. Gestational age was determined by early scan with preeclampsia in index pregnancy. Data was collected through a specialised questionnaire and analysed using SPSS 16. Results: Of the 479 patients seen with preeclampsia, 121(25.26%) were of recurrent preeclampsia. The mean age of such patients was 29.7 +/- 4.9 years (range: 20-39 years). Further, 84(69.42%) patients were multipara and 40(33.05%) were grand multipara. Mean body mass index was 29.97 +/- 6.2 (range: 18-54). Besides, 28(23.14%) patients had gestational diabetes; 7(5.78%) were known diabetics; 24(19.83%) had chronic hypertension; 2(1.7%) patients had chronic renal disease; and 1(0.8%) had connective tissue disorder. Conclusion: Being over-weight, having gestational diabetes and chronic hypertension were main risk factors leading to recurrent preeclampsia.
**Publication Type:** Journal: Article  
**Source:** EMBASE

**Title:** Excess placental secreted frizzled-related protein 1 in maternal smokers impairs fetal growth  
**Citation:** Journal of Clinical Investigation, November 2015, vol./is. 125/11(4021-4025), 0021-9738;1558-8238 (02 Nov 2015)  
**Author(s):** Wang A., Zsengeller Z.K., Hecht J.L., Buccafusca R., Burke S.D., Rajakumar A., Weingart E., Yu P.B., Salahuddin S., Karumanchi S.A.  
**Language:** English

**Abstract:** Maternal cigarette smoking during pregnancy remains one of the most common and preventable causes of fetal growth restriction (FGR), a condition in which a fetus is unable to achieve its genetically determined potential size. Even though epidemiologic evidence clearly links maternal cigarette smoking with FGR, insight into the molecular mechanisms of cigarette smoke-induced FGR is lacking. Here, we performed transcriptional profiling of placentas obtained from smoking mothers who delivered growth-restricted infants and identified secreted frizzled-related protein 1 (sFRP1), an extracellular antagonist of endogenous WNT signaling, as a candidate molecule. sFRP1 mRNA and protein levels were markedly upregulated (~10-fold) in placentas from smoking mothers compared with those from nonsmokers. In pregnant mice, adenovirus-mediated overexpression of sFRP1 led to FGR, increased karyorrhexis in the junctional zone, and decreased proliferation of labyrinthine trophoblasts. Consistent with our hypothesis that placental WNT signaling is suppressed in maternal smokers, we found that exposure to carbon monoxide analogs led to reduced WNT signaling, increased SFRP1 mRNA expression, and decreased cellular proliferation in a trophoblast cell line. Moreover, administration of carbon monoxide analogs to pregnant mice in late gestation led to FGR. In summary, our results indicate that the increased placental expression of sFRP1 seen in smokers impairs fetal growth by inhibiting WNT signaling and trophoblast proliferation.

**Publication Type:** Journal: Article  
**Source:** EMBASE

**Full Text:** Available from ProQuest in Journal of Clinical Investigation

**Title:** Epilepsy in pregnancy and reproductive outcomes: A systematic review and meta-analysis  
**Citation:** The Lancet, November 2015, vol./is. 386/10006(1845-1852), 0140-6736;1474-547X (07 Nov 2015)  
**Author(s):** Viale L., Allotey J., Cheong-See F., Arroyo-Manzano D., McCorry D., Bagary M., Mignini L., Khan K.S., Zamora J., Thangaratinam S.  
**Language:** English

**Abstract:** Summary Background Antenatal care of women with epilepsy is varied. The association of epilepsy and antiepileptic drug exposure with pregnancy outcomes needs to be quantified to guide management. We did a systematic review and meta-analysis to investigate the association between epilepsy and reproductive outcomes, with or without exposure to antiepileptic drugs. Methods We searched MEDLINE, Embase, Cochrane, AMED, and CINAHL between Jan 1, 1990, and Jan 21, 2015, with no language or regional restrictions, for observational studies of pregnant women with epilepsy, which assessed the risk of obstetric complications in the antenatal, intrapartum, or postnatal period, and any neonatal complications. We used the Newcastle-Ottawa Scale to assess the methodological quality of the included studies, risk of bias in the selection and comparability of cohorts, and outcome. We assessed the odds of maternal and fetal complications (excluding congenital malformations) by comparing pregnant women with and without epilepsy and undertook subgroup analysis based on antiepileptic drug exposure in women with epilepsy. We summarised the association as odds ratio (OR; 95% CI) using random effects meta-analysis. The PROSPERO ID of this Systematic Review's protocol is
Findings Of 7050 citations identified, 38 studies from low-income and high-income countries met our inclusion criteria (39 articles including 2837325 pregnancies). Women with epilepsy versus those without (2809984 pregnancies) had increased odds of spontaneous miscarriage (OR 154, 95% CI 102-232; I²=67%), antepartum haemorrhage (149, 101-220; I²=37%), post-partum haemorrhage (129, 113-149; I²=41%), hypertensive disorders (137, 121-155; I²=23%), induction of labour (167, 131-211; I²=64%), caesarean section (140, 123-158; I²=66%), any preterm birth (<37 weeks of gestation; 116, 101-134; I²=64%), and fetal growth restriction (126, 120-133; I²=1%). The odds of early preterm birth, gestational diabetes, fetal death or stillbirth, perinatal death, or admission to neonatal intensive care unit did not differ between women with epilepsy and those without the disorder. Interpretation A small but significant association of epilepsy, exposure to antiepileptic drugs, and adverse outcomes exists in pregnancy. This increased risk should be taken into account when counselling women with epilepsy. Funding EBM CONNECT Collaboration.

Publication Type: Journal: Review

Source: EMBASE

Full Text: Available from The Lancet in Lancet, The
Available from Elsevier in Lancet, The

Title: Teen Pregnancy: Are Pregnancies following an Elective Termination Associated with Increased Risk for Adverse Perinatal Outcomes?

Citation: Journal of Pediatric and Adolescent Gynecology, December 2015, vol./is. 28/6(530-532), 1083-3188;1873-4332 (December 2015)

Author(s): van Veen T.R., Haeri S., Baker A.M.

Language: English

Abstract: Study Objective: The authors sought to determine whether pregnancies in adolescents following an abortion of pregnancy is associated with an elevated risk for adverse perinatal outcomes. Methods: In a cohort study of all adolescent (younger than 18 years) deliveries over a 4-year period at 1 institution, we compared nulliparous women with a history of a prior abortion (cases) to those without a spontaneous loss or abortion of pregnancy (referent) for adverse perinatal outcomes, including preterm birth and fetal growth restriction. Results: Of the 654 included nulliparous adolescent deliveries, 102 (16%) had an abortion before the index pregnancy. Compared with the referent group, adolescents with a history of a abortion were older (17.8 +/- 0.8 vs 16.7 +/- 1.2 years, P = .0001), enrolled earlier for prenatal care (14.4 +/- 5.6 vs 17.2 +/- 7.6 weeks, P = 0004), along with a higher incidence of African American race (95% vs 88%, P = 0). The groups did not differ with respect to other maternal demographics. Perinatal outcomes, including spontaneous preterm birth, abnormal placentation, birth weight, and gestational age at delivery, did not differ between the 2 groups. Conclusion: Compared with adolescent women who had just delivered and did not have a prior abortion, women who had just delivered and had a previous abortion were more likely to be older at the age of their first pregnancy and more likely to initiate early prenatal care. Thus, having a prior abortion may improve the health of a pregnancy though adverse outcomes do not differ between the 2 groups.

Publication Type: Journal: Article

Source: EMBASE

Title: Does fetal growth restriction lead to increased brain injury as detected by neonatal cranial ultrasound in premature infants?

Citation: Journal of Paediatrics and Child Health, November 2015, vol./is. 51/11(1103-1108), 1034-4810;1440-1754 (November 2015)

Author(s): Malhotra A., Yahya Z., Sasi A., Jenkin G., Ditchfield M., Polglase G.R., Miller S.L.
Abstract: Aim Intra-uterine growth restriction (IUGR) is an important cause for prematurity as well as a significant risk factor for neurodevelopmental deficits. In this study, we aimed to examine the association between IUGR and early brain injury on neonatal cranial ultrasound in preterm infants. Methods This retrospective cohort study examined the relationship between IUGR and neonatal cranial ultrasound findings in preterm infants <32 weeks gestation with IUGR, compared with gestation and year of birth-matched appropriately grown infants, in a tertiary level neonatal unit. Primary outcome was incidence and severity of intraventricular haemorrhage (IVH), periventricular leucomalacia (PVL) and hydrocephalus detected by cranial ultrasound in the neonatal period. Results A total of 153 IUGR and 306 non-IUGR preterm infants <32 weeks were included. The rates of IVH (21.6% vs. 23.9%), severe IVH (3.9% vs. 4.6%), PVL (8.4% vs. 9.4%), cystic PVL (2.6% vs. 0%) and hydrocephalus (0.7% vs. 0.3%) were similar in the two groups. Composite outcome of death and severe brain injury (severe IVH, cystic PVL and hydrocephalus) was greater (20.2% vs. 9.1%, P = 0.001) in IUGR infants. Conclusion IUGR did not lead to increased neonatal brain injury on cranial ultrasound but was associated with increased mortality. Advanced neonatal neuroimaging techniques may be necessary to estimate risk and to provide prognostic information of adverse neurological outcomes in this vulnerable population.

Publication Type: Journal: Article

Source: EMBASE
**Abstract:** The aim of this study was to determine pregnancy outcomes among early adolescent women (aged <15-years) compared with those in late adolescence (16-19 years) and adults aged 20-30 years. Material and Methods A retrospective cohort study was conducted on singleton pregnancies with maternal age <15-years (early adolescent), 16-19 years (late adolescent), and 20-30 years (adult). The primary outcomes for comparison were the rates of preterm birth, low birthweight, growth restriction and cesarean section. Results A total of 33-777 pregnancies, 298 early adolescent, 4456 late adolescent, and 29,023 adults, were enrolled. Most baseline characteristics were comparable but rates of pregnancy complicated by medical diseases were significantly higher in the adults, especially diabetes mellitus and chronic hypertension. When compared to the adult group, the early adolescent group had significantly higher rates of preterm birth (31.9% vs 14.5%, P <0.001), growth restriction (11.7% vs 7.1%, P =0.002), low birthweight (28.9% vs 14.7%, P =0.001), while maternal morbidity, such as pre-eclampsia and placenta previa, was similar. Likewise, most of the main outcomes in early adolescents were also significantly higher than those in late adolescents, but with lesser degrees. Interestingly, the primary cesarean rate was significantly lower in early adolescent women (6.7% vs 12.3%, P =0.005). Conclusion Early adolescent pregnancy was associated with higher risks of adverse pregnancy outcomes, in particular preterm birth and growth restriction, though most maternal morbidity was comparable with that in the control groups. Cesarean rate was significantly lower in early adolescent mothers. This information should be provided to women and their families.

**Publication Type:** Journal: Article

**Source:** EMBASE
Abstract: Reversible cerebral vasoconstriction syndrome (RCVS) is characterized by severe headache and diffuse segmental constriction of the cerebral arteries that resolves spontaneously within a few months. Pregnancy is one of the precipitating factors of RCVS and most of the reported cases occurred in the postpartum period. We report a case of RCVS that occurred in a pregnant woman with pre-eclampsia during her antepartum period. A 34-year-old woman in full-term pregnancy presented with a severe and acute headache. Magnetic resonance angiography (MRA) showed multiple segmental constrictions of the cerebral arteries. Magnetic resonance imaging revealed a high-intensity lesion in the left occipital lobe, consistent with reversible posterior leukoencephalopathy syndrome, on fluid attenuated inversion recovery sequences. The case was also complicated by severe pre-eclampsia and the patient underwent emergency cesarean section. Although her symptoms resolved rapidly, MRA revealed new lesions of arterial constriction 4-days after onset. The vasoconstriction completely resolved on MRA after 10-days and the patient was discharged without neurological sequelae.