

# What's New in Obstetrics & Gynaecology?



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## Maternal Use of $\beta$ -blockers in the First Trimester Does Not Increase the Risk of Congenital Malformations in Offspring

- ♥  $\beta$ -Blockers such as Labetalol are commonly used in pregnancy.
- ♥ The association between other  $\beta$ -blockers exposure in early pregnancy and risk for congenital malformations is controversial.  $\beta$ -Blockers cross the placenta, and some studies in animal models suggest a potential teratogenic effect.



- ♥ In a recent study, *Bateman BT et al* evaluated the data of more than **18,000 hypertensive pregnant women** collected from the health registries in the 5 Nordic countries (Denmark, Finland, Iceland, Norway, and Sweden) and the U.S. Medicaid database.
- ♥ The study concluded that maternal use of  $\beta$ -blockers in the first trimester was not associated with a large increase in the risk for overall malformations or cardiac malformations, independent of measured confounders.
- ♥ The pooled adjusted relative risk (RR) associated with  $\beta$ -blockers was 1.07 for any major malformation; 1.12 for any cardiac malformation; and 1.97 for cleft lip or palate; and 1.37 for any CNS malformations. The results suggest a modest increase in the RR for malformations.
- ♥ To conclude,  $\beta$ -Blockers can be used to manage hypertension in first trimester if the potential benefits to mother outweighs any potential risk to the foetus. The potential risks to the foetus must be balanced against the risks to the mother associated with untreated hypertension.

*Reference - Ann Intern Med. 2018 Nov 20;169(10):665-673.*

## Prophylactic Tranexamic Acid Prevents Blood Loss After Vaginal Delivery

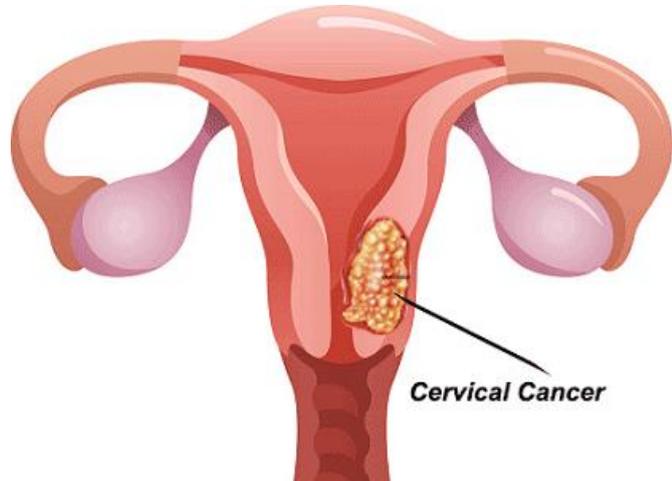
- ♥ Tranexamic acid is a common component of treatment of postpartum hemorrhage (PPH), but data on its use in the third stage of labor as prophylaxis against PPH has been limited.
- ♥ A recent multicenter randomized trial done in **4000 laboring women**  $\geq 35$  weeks of gestation investigated whether the prophylactic administration of **tranexamic acid** in addition to prophylactic **oxytocin** in women with vaginal delivery would decrease the incidence of postpartum hemorrhage..
- ♥ Women in the tranexamic acid group had a lower rate of postpartum haemorrhage than those in the placebo group (7.8% vs. 10.4%; relative risk, 0.74;  $P = 0.004$ ); and also received less additional uterotonic agents (7.2% vs. 9.7%; relative risk, 0.75;  $P = 0.006$ ); as compared to placebo group.
- ♥ A strong trend toward **reduced blood loss  $>500$  mL** (RR 0.83) was reported for the tranexamic acid group.



*Reference - N Engl J Med 2018;379:731-42*

## New Epigenetic Cervical Cancer Test has 100% Detection Rate

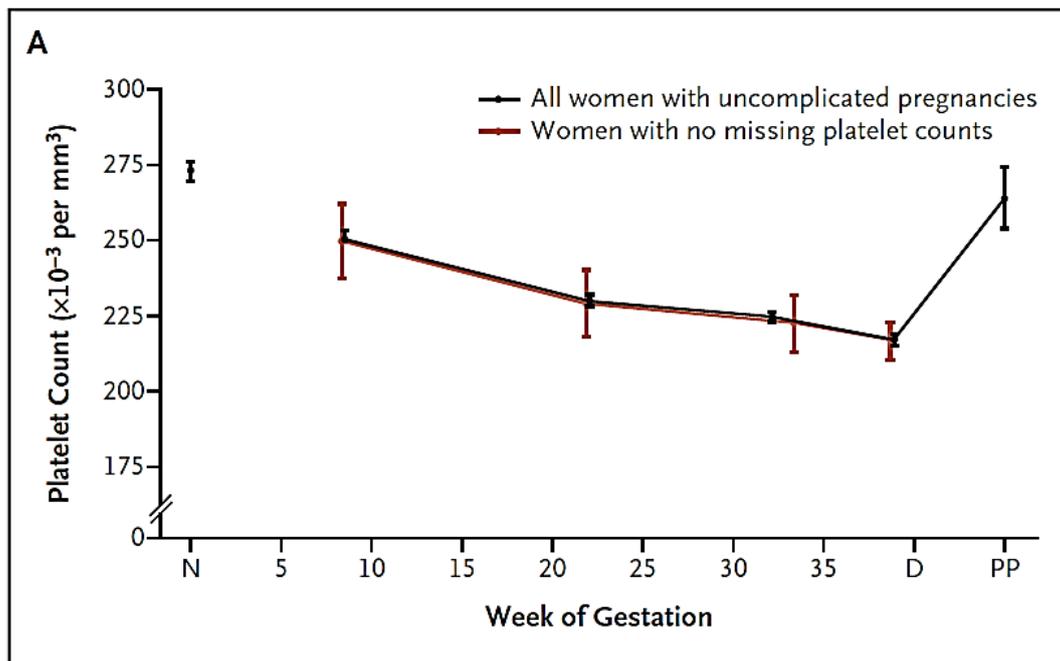
- ♥ Current methods of testing, either screening or the pap smear test, only detect up to half of cervical pre-cancers.
- ♥ A much more accurate cervical screening method involves testing for the presence of DNA from the human papillomavirus (HPV) -- the primary but indirect cause of cervical cancer. However, the HPV test only identifies whether or not women are infected with a cancer-causing HPV, but not their actual risks of cancer, which remain quite low.
- ♥ A new cervical cancer test has been found to detect 100% of cervical cancers, according to a report published in *The International Journal of Cancer*. This innovative test is developed by Queen Mary University of London.
- ♥ The new test was significantly better than either the Pap smear or HPV test. It detected 100% of the eight invasive cervical cancers that developed in the **15,744 women** during the trial. In comparison, the Pap smear detected only 25% of the cancers, and the HPV test detected 50%.
- ♥ The new test works by examining naturally-occurring chemical markers that appear on top of the DNA, making up its '**epigenetic profile**'.
- ♥ This new test can detect and predict early cervical cancers years in advance, with 100% detection rate.



*Reference - International Journal of Cancer 2018; DOI: 10.1002/ijc.31976*

## Platelet Counts Decreases During Pregnancy in All Women

- ♥ The scope and magnitude of gestational thrombocytopenia (GT) have been unclear.
- ♥ *Jessica Reese et al* evaluated platelet counts throughout pregnancy in 7351 women.
- ♥ Among the women who had uncomplicated pregnancies, the mean platelet count in the first trimester was **2,51,000 per cubic millimeter**, which was lower than the mean platelet count in 8885 non-pregnant women (**2,73,000 per cubic millimeter**) ( $P < 0.001$ ).
- ♥ The platelet count decreased further at delivery (**2,17,000 per cubic millimetre**).
- ♥ At the time of delivery, 9.9% of the women with uncomplicated pregnancies had a platelet count below **1,50,000 per cubic millimetre** while 1.0% had a platelet count below **1,00,000 per cubic millimeter**.
- ♥ The platelet count returned to the non-pregnant level several weeks postpartum.

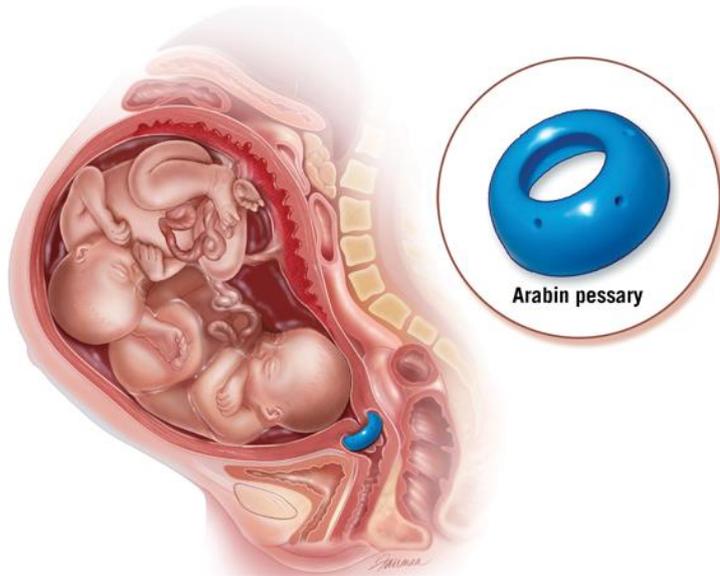


- ♥ It was concluded that, mean platelet counts decreased during pregnancy in all the women, beginning in the first trimester.
- ♥ In women who have a platelet count of less than 1,00,000 per cubic millimeter, a cause other than pregnancy or its complications should be considered.

*Reference - N Engl J Med. 2018 Jul 5;379(1):32-43*

## Cervical Pessary for Reducing the Risk of Late Spontaneous Preterm Birth

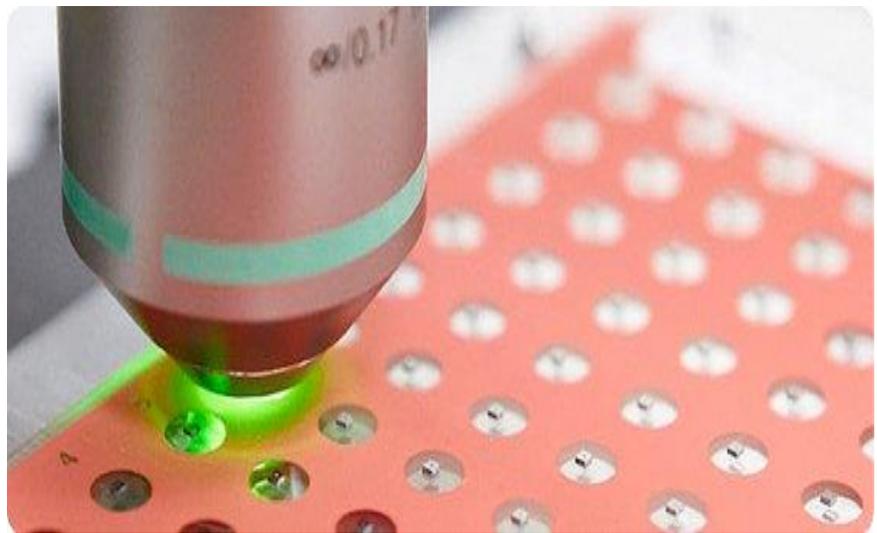
- ♥ Whether a cervical pessary prolongs pregnancy in women with a short cervix is unclear.
- ♥ *Pratcorona et al* conducted the first study of its kind to determine whether pessary is effective in reducing the preterm delivery rate and neonatal morbidity and mortality in women with short cervix remaining after threatened preterm labor.
- ♥ It was found that, pessary use did not significantly lower the spontaneous preterm birth rate <34 weeks but did significantly reduce the spontaneous preterm birth rate <37 weeks.
- ♥ Preterm premature rupture of membranes and threatened preterm labor recurrence rates were reduced with pessary placement from 8.0% to 2.3% and from 20.0% to 4.5%, respectively.
- ♥ No significant reduction was found in neonatal morbidity.
- ♥ The author stated that, cervical pessary could be considered an affordable, safe and reliable tool for reducing the risk of late spontaneous preterm birth in singleton pregnancies of women with short cervical length remaining after a threatened preterm labor, a high-risk population in whom no intervention has proven efficacious to date.



**Reference - *Am J Obstet Gynecol.* 2018 Jul;219(1):99.e1-99.e16**

## RBC Genotyping to Determine Blood Type

- ♥ Traditionally, red blood cell antigens have been identified using serological methods based on haemagglutination reactions.
- ♥ The serological method has potential limitations, such as weak antibody reactivity, weak antigen expression, scarcity of some reagents and the presence of unwanted autoantibodies or alloantibodies (e.g. after transfusion) in the plasma.
- ♥ In recent years, there has been a significant increase in molecular blood group typing method.
- ♥ Red blood cell (RBC) genotyping, which determines the DNA sequence at loci for clinically important blood group antigens, is an alternative approach that has not been widely available.
- ♥ In a recent study that compared RBC genotype and serologically-determined phenotype in 1000 samples, the genotype test was accurate in predicting all blood group antigens and was able to resolve the cases in which serologic testing gave a false-negative result.
- ♥ The **US Food and Drug Administration (FDA)** have also approved the RBC genotyping test used in this study.
- ♥ Decisions to use genotyping generally involve guidance from the transfusion service and input from the clinical caregivers.



*Reference - Blood Transfus 2018; 16: 193-9*



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