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Does the availability of a mobile-connected umbilical Doppler device (Umbiflow) in a primary care maternity setting reduce referrals to specialised care?

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Background. Umbiflow is a Microsoft Windows-based Doppler device that utilises a continuous-wave waveform to detect blood flow within the umbilical cord. A small proprietary Doppler probe with a universal serial bus (USB) cable is connected to a computer, where the necessary software is installed.
Objective. To determine whether the use of Umbiflow for umbilical artery Doppler in patients with a suspected decreased symphysis-fundal (SF) growth could safely lead to a decreased number of patients requiring referral to a more specialised level of care for Doppler testing. The secondary aim was to evaluate the effectiveness of Doppler as a screening tool for concealed intrauterine growth restriction in late-bookers.
Method. The study was conducted at a metropolitan antenatal facility. All patients with a decreased SF measurement underwent testing on site. Patients with normal Doppler for their respective gestation (defined as <75th centile) were reassured and followed up routinely; Doppler values between the 75th and 95th percentile were referred to the doctor's clinic at a district hospital (Western Cape provincial ultrasound policy). Patients with abnormal (>95th centile) values were referred to the regional hospital (Tygerberg) high-risk clinic on the same day. Patients who booked late (clinically >28 weeks by SF) receive a screening Doppler test. A resistance index value of 0.8 or more was used as a cut-off to refer for specialist evaluation.
Results. During the 5-month period 88 women underwent Doppler testing, 28 for decreased SF and 60 screening for late booking. Of the 28 with decreased SF, 12 (42.8%) had a normal Doppler and were reassured. All had a good postnatal outcome with a mean birth weight of 2 781 g and 5-minute Apgar of 9. Of late-bookers, 5 (8.3%) were referred for abnormal values. Overall, in the group with values between 75th and 95th centile, the mean birth weight was 2 591 g and gestational age at delivery 38.2 weeks; 11 patients identified with values >95th centile all either delivered in a hospital setting or are still being followed at the high-risk clinic.

The incidence of HIV seroconversion during pregnancy at Pelonomi Hospital antenatal clinic

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Background. According to the recent survey (Global AIDS response progress – 2012), the prevalence of HIV in South African (SA) antenatal clinics is reported to be 30.2%. Prevention of new HIV infections is critically imperative for SA. The prevention of mother-to-child transmission (PMTCT) is one of the most effective HIV prevention interventions.
Objective. To determine the incidence of HIV during pregnancy as defined by seroconversion using the ELISA HIV retesting strategy during the third trimester.
Method. Prospective descriptive cohort study in which mothers who had initially tested HIV-negative during the current pregnancy were retested for HIV. The assessment was done from July 2010 to December 2012. The 500 HIV-negative women who were first tested before 24 weeks were recruited, and they were HIV ELISA retested after 24 weeks' gestation, provided that they had tested HIV-negative at least 6 weeks earlier.
Results. Among 500 recruited women, 416 met the inclusion criteria; 61 women (14.7%) retested HIV-positive. Teenage and advanced maternal age women constituted 13.2% and 15.1% of the study group, respectively. Condom use during the past 12 months until the index pregnancy was reported by participants as always (0.48%), sometimes (60%) and never (39%). Marital status in the study group showed 41% married, 57% single and 2% divorced. Only 7% of the women reported having had more than one sexual partner during the past 12 months before the current pregnancy. 58% of the women reported that their pregnancies were unplanned.
Conclusion. The high incidence of HIV during pregnancy is a compelling reason for HIV retesting. This study shows the incidence of HIV seroconversion during pregnancy to have most likely quadrupled over the last 4 years. Public health programmes need to fully reinforce PMTCT strategies by absolute implementation of HIV retesting during pregnancy.

Coverage of the emergency obstetric signal functions in the 12 core districts involved in the ESMOE-EOST scale-up programme

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Objective. To assess ability of the hospitals and community health centres in the 12 core districts to perform the basic (BEmOC) and comprehensive emergency obstetric care (CEmOC) signal functions.
Method. The 136 health institutions in the 12 core districts were visited: 55 community health centres (CHCs), 64 district hospitals (DHs), 13 regional hospitals and 4 provincial tertiary hospitals) between July and October 2011. The institution had been informed of the survey and given the forms to complete at an information meeting held in their province. During the visit the survey form was collected and a walk-through of the institution held to verify the data.

Results. The UN has set some basic guidelines for providing emergency obstetric care, namely 'for every 500 000 population, there should be at least one comprehensive and four basic emergency obstetric care facilities'. In every district the number of facilities far exceeded these norms in respect of the population they served. No CHC could perform all 7 signal functions with the majority only able to perform 4. Just under half of the DHs could perform all 9 functions, three-quarters could perform 8 of the 9 functions. The most common functions not performed were assisted delivery and manual vacuum aspiration of incomplete miscarriages in CHCs, and caesarean sections and assisted deliveries in the DHs. Almost all (82.1%) institutions had prescribed referral routes, 88.8% had prescribed referral criteria and 70.9% could produce the document stating the referral policies.
Conclusions. There are more than enough health facilities to provide a comprehensive emergency obstetric and neonatal service. The vast majority of CHCs cannot provide the complete set of BEmOC signal functions. Almost a quarter of DHs cannot provide adequate CEmOC. The attitude to assisted deliveries needs to change. CEOs of CHCs and DHs need to ensure that they employ healthcare providers that deliver the **correct skills mix** to ensure basic and comprehensive emergency care can be effectively run. This is an area where **task shifting** can be fruitfully employed.

The impact of interfacility transport on maternal mortality

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Background. In December 2011, having identified interfacility transport as a problem in the maternity service, the Free State Department of Health procured and issued 48 vehicles including 18 dedicated to maternity care. Subsequently, a sustained reduction in mortality was observed.
Objective. To probe the role of interfacility transport in effecting this reduction in mortality.
Method. A before-after analysis was performed of data from 2 separate databases, including the district health information system and the emergency medical and rescue services call-centre database. Data were compared for a 12-month prior- and 10-month post-intervention period using descriptive and correlation statistics.
Results. The maternal mortality decreased from 279/100 000 live births during 2011 to 152/100 000 live births during 2012. The mean dispatch interval decreased from 32.01 to 22.47 minutes. The number of vehicles dispatched within 1 hour increased from 84.2% to 90.7% ($p<0.0001$). Monthly mean dispatch interval curves closely mirrored the maternal mortality curve.
Conclusion. Effective and prompt transport of patients with pregnancy complications to an appropriate facility resulted in a reduction of maternal mortality. Health authorities should prioritise funding for interfacility vehicles for maternity services to ensure prompt access of pregnant women to centres with skills available to manage obstetric emergencies.

Pregnancy outcomes in super-obese women: An even bigger problem? A prospective cohort study

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Background. Obesity is a growing problem worldwide with an ever-increasing burden. Obesity has been directly linked to adverse maternal and perinatal outcomes, even more so for the extremes of obesity.
Objective. To investigate whether differences exist in adverse pregnancy outcomes between morbidly obese (body mass index (BMI) 40 - 49.9 kg/m^2) and super-obese women (BMI ≥50 kg/m^2).
Method. Prospective cohort study conducted at Tygerberg Hospital, Western Cape. Morbidly and super-obese pregnant women were recruited from the antenatal clinic. Data were collected from the files 6 weeks after delivery. Primary outcomes included hypertension, gestational diabetes mellitus (GDM) and fetal macrosomia. Secondary outcomes included baseline characteristics, previous complications, antenatal and peripartum complications, and short-term neonatal outcomes.
Results. Sixty-six morbidly obese and 46 super-obese women were enrolled. Super-obese women experienced significantly higher incidences of pre-eclampsia (24% v. 9%; p=0.03) and intrauterine growth restriction (13% v. 2%; p=0.02), and both groups had a high incidence of GDM (24% v. 24%; not significant (NS)). Both super- and morbidly obese women experienced high rates of caesarean section (52% v. 41%; NS). In super-obese women these procedures lasted longer (50 v. 41 minutes; p<0.01) and there were more surgical complications (38% v. 7%; p=0.02). Prolonged admission (>3 days) after delivery was also more common in super-obese women (65% v. 42%; p=0.03).
Conclusions. Super-obese women encounter more major pregnancy complications (especially hypertensive, pre-eclamptic and surgical) than morbidly obese women, emphasising the fact that these women should be managed at institutions with sufficient expertise. *(Full article published in this issue of* SAJOG.*)*

Delivery of women with a previous unexplained intrauterine fetal death: A prospective cohort study at Tygerberg Hospital, Cape Town, South Africa

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Background/Objective. Pregnancies in women with a previous unexplained stillbirth may be jeopardised by increased antenatal surveillance and higher rates of induction of labour and caesarean delivery without clear evidence of benefit. A policy of routine induction of labour at 38 weeks, with all the associated maternal, fetal and healthcare-associated costs, had been in practice at Tygerberg Hospital for the past 30 years. This study aimed to investigate the safety of continuation of these pregnancies until term (>39 weeks).
Method. A prospective observational study on the safety of a new hospital protocol introduced in 2012. The protocol extended the gestation for induction after a previous unexplained fetal death from 38 weeks to term. The study population included all pregnant patients with a current singleton pregnancy, and a previous unexplained or unexplored singleton fetal death ≥24 weeks/500 g referred to Tygerberg Hospital during 2012. Patients with known or recurrent risks for intrauterine death (IUD) were managed according to the relevant clinical condition and were excluded from the study.
Results. During the audit period, 306 patients with a previous fetal IUD were referred for further management. Of these, 161 had a

clear indication for either earlier intervention or no intervention and were excluded from the protocol. Of the remaining 145 patients, 9 met exclusion criteria and there were 2 patients who defaulted. Forty-two of the study patients (with no known previous medical problems) developed complications during their antenatal course that necessitated a change in clinical management and earlier (<39 weeks) delivery. Of the remaining 92 patients in the audit, 47 (51%) went into spontaneous labour before their induction date. There were no IUDs prior to induction.

Conclusions. Careful follow-up at a high-risk clinic identifies new or concealed maternal or fetal complications in 29% of patients with a previous IUD and no obvious maternal or fetal disease in the index pregnancy. When all risks are excluded and the pregnancy is allowed to progress to 39 weeks before an induction is offered, 51% will go into spontaneous labour.

Posterior axilla sling traction for shoulder dystocia: A case series

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Background. Shoulder dystocia is one of the most unpredictable and serious complications that can occur during labour. Survival is dependent on the rapid execution of a sequence of manoeuvres. Despite this there may be cases that are still not deliverable. In 2009 we described a new technique: posterior axilla sling traction (PAST), performed on two cases of intractable shoulder dystocia complicated by intrauterine death. We now present a series including all known cases.

Method. A retrospective review of all cases of the PAST technique was performed. Cases were identified by word of mouth and all the performers were directly contacted to obtain clinical information.

Results. Fourteen cases were identified and included five cases of intrauterine demise and nine live-born fetuses. PAST has been used in many different hospitals and countries and was described as easy to use in 92% of the cases. In 12 cases it was successful after all traditional manoeuvres had failed. In one case it was used after McRoberts and suprapubic pressure failed. In the last case it was partially successful as it brought the posterior shoulder low down enough for the accoucher to deliver the shoulder with axillary traction. There were three humerus fractures, which all occurred when delivering the anterior arm after PAST was used. Five fetuses suffered from Erb's palsies of the anterior arm. Only one case was not transient and needed physiotherapy after discharge. It is very likely that prior attempts to deliver the anterior shoulder by posterior head traction caused the Erb's palsies. As all of these cases were severe and multiple manoeuvres were attempted, fetal morbidity is not unexpected.

Conclusion. PAST is easy to perform and may help avoid prolonged delivery intervals and surgical management. All involved with delivering babies should be aware of this new technique, as it may be lifesaving when other traditional techniques fail.

A comparison of the presentation of the polycystic ovary syndrome in adolescents compared with women aged 35 and older at Groote Schuur Hospital, Cape Town, South Africa

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Background/Objective. Polycystic ovary syndrome (PCOS) is the most common endocrinopathy occurring in women of reproductive age. This study aimed at comparing the presentation of adolescents with that of women ≥35 years presenting to the gynaecological endocrine clinic with a diagnosis of PCOS.

Method. This was a descriptive cohort study. Since 1996 all women with PCOS have their clinical, metabolic and endocrine data entered into a database. We compared the initial presentation of adolescents and women aged ≥35.

Results. A total of 1 549 patients were included in our database. Of these 146 were ≥35 years at initial presentation and 186 were adolescents. At presentation, menstrual dysfunction and acne was more common in adolescents than the older women (p<0.0001). Hirsutism was a common clinical complaint both among adolescents (79%) and older women (77%) (not significant). Among the older women, 55% (n=67) who had attempted to conceive complained of infertility. The study population was mainly overweight or obese, with only 67 adolescents and 10 adults having a body mass index in the normal or underweight range. This tended to worsen with increasing age and waist/hip ratio was >0.85 in 71% of adults and 46% of adolescents (p<0.0001). There was no significant difference in serum testosterone levels and the free androgen index between the two groups. The majority of women had some indication of biochemical hyperandrogenism. Most women in both groups had evidence of insulin resistance. Acanthosis nigricans was more common among the adult women (68%) (p<0.026). The glucose-insulin ratio was similar in the two groups. The majority of our patients have at least one lipid abnormality, and this was more pronounced in the older women (p<0.0001). The criteria for the diagnosis of the metabolic syndrome were fulfilled in 31 of the adults and 12 of the adolescents.

Conclusion. Our study demonstrates that even young women presenting with PCOS have metabolic dysfunction. Metabolic disorders were more pronounced in the older women. Early diagnosis and appropriate treatment of PCOS in adolescence may well improve the prognosis in terms of long-term health.

Laparoscopy v. laparotomy for the surgical treatment of suspected ruptured ectopic pregnancy: A randomised trial

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Background. Standard of care in most cases of ectopic pregnancy in a resource-poor setting is surgical treatment with laparotomy. There are limited data with regard to outcomes comparing laparoscopy to laparotomy in the treatment of these women.

Method. The study was conducted at Kalafong Academic Hospital in Atteridgeville, Pretoria. Consenting women diagnosed clinically with ruptured ectopic pregnancy, meeting certain criteria with regard to haemodynamic status, were recruited to the trial. Eligible patients were randomised by sealed envelope after recruitment into either laparoscopic salpingectomy or salpingectomy performed during laparotomy.

Results. One hundred and forty women were recruited into the study. There was no difference in the age, parity and preoperative haemoglobin values between the two groups. Laparoscopic surgery was associated with a statistically significant shorter hospital stay, quicker return to work and quicker recovery time compared with laparotomy. Patients operated on laparoscopically experienced

significantly less pain as measured by visual analogue pain scores compared with those who underwent laparotomy. Operating time was significantly longer for laparoscopic procedures compared with laparotomy. Postoperative haemoglobin levels were statistically significantly lower in the laparotomy group.

Conclusion. Laparoscopic surgery is feasible in most patients diagnosed with ruptured ectopic pregnancy in resource-poor settings, and should be the surgical treatment option of choice for this condition.

Anal incontinence during pregnancy and post delivery among Indians and black Africans: Prevalence and predictors

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Background. Anal incontinence (AI) in women is a common debilitating condition, with pregnancy and childbirth being major contributory factors.

Objective. To determine the prevalence of and predictors (demographic and birth variables) for AI during pregnancy and post partum among Indians and black Africans.

Method. This was a prospective questionnaire-based, cohort study carried out at two hospitals in the Durban metropolitan area of South Africa, attended by mainly Zulu-speaking black Africans and Indians. Patients were recruited over 3 months and followed up for 6 months post delivery. Data on demographics, obstetric factors and symptoms of AI were collected at birth, 6 weeks and 6 months post delivery. The association between these variables and AI were explored using bivariate and multivariate analysis.

Results. Information on symptoms of AI in pregnancy was obtained from 1 248 women, 1 135 women responded at 6 weeks post partum, and 1 099 responded 6 months later. The majority were black African (n=1 004; 80.4%), with a median (range) age of 24 years (13 - 45). The prevalence of symptoms of AI late in pregnancy was 57.9%, rising to 81% at 6 weeks and then falling to 0.7% at 6 months postpartum. On both bivariate and multivariate analysis, being black African was significantly associated with AI and having had epidural analgesia was significantly associated with faecal incontinence at 6 weeks post delivery.

Conclusion. AI appears to be a common complaint late in pregnancy with a rise in prevalence at 6 weeks post delivery, but in the majority of cases it seems to resolve by 6 months. This suggests that the alterations in the pelvic floor and changes in anal and perineal anatomy associated with pregnancy, and not just obstetric factors and sphincter injury alone, may play a role in the development of AI.

Paucity of urogynaecology research in Africa: Time for change

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Background. Because of the recent growth in research into pelvic floor dysfunction, the extent of problems associated with prolapse, urinary incontinence and bowel dysfunction is well understood in Europe, the Americas, Australasia and parts of Asia. Africa, with its female population approaching 3.5 billion, has unique challenges and as a result many issues related to pelvic floor dysfunction may be different.

Objective. To obtain an overview of the subject matter and regional distribution of published research on pelvic floor dysfunction in Africa.

Method. All countries in Africa were identified and divided into regions. The PubMed online database was used to search for published papers on various pelvic floor disorders using a broad range of keywords. The search was concluded in December 2012.

Results. The top four countries producing papers were Nigeria (87), Egypt (71), South Africa (SA) (54) and Ethiopia (42). Together they accounted for more than two-thirds of the total number of papers produced in all 54 African countries. Even in the countries producing the highest number of publications, the numbers of papers on anal incontinence, prolapse and sexual function were low. Fistula remains a major problem in Africa, with 24 countries publishing a total of 200 papers on this subject. More than half of these papers were produced by Nigeria and Ethiopia. There were 93 published papers on urinary incontinence, of which Guinea produced more than a third. Only Egypt has contributed significantly to the continent's data on anal incontinence. The Central African Republic produced the only paper on patients' perceptions of prolapse, while SA produced the only paper in Africa on complication of vaginal mesh. The majority of papers published on sexual dysfunction were on postmenopausal women or in women following genital cutting. Epidemiological data were sparse throughout the continent, with only 21 papers published on the subject.

Conclusion. There is a need for increased research into pelvic floor disorders in our African population. For us to progress in the management of our patients, it is essential that we increase research specifically into incontinence, prolapse and sexual dysfunction.

The impact of LAVH on the total number of vaginal hysterectomies performed in a tertiary academic hospital in South Africa: 10 years analysis

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Background. Hysterectomy is one of the most commonly performed surgical procedures in gynaecology. Vaginal hysterectomy (VH) should be the preferred route because of advantages such as shorter operating time, less bleeding, quicker recovery and return to daily activities, less postoperative pain and fewer postoperative infections. The rationale behind laparoscopically assisted vaginal hysterectomy (LAVH) is not to replace VH but to convert an abdominal hysterectomy into a laparoscopic vaginal procedure and thereby to reduce trauma and morbidity.

Objective. To establish in a retrospective study whether LAVH may allow hysterectomy to be performed safely by the vaginal route; however the most important outcome was to assess the impact of this approach on the total number of VHs performed without laparoscopic assistance over a period of 10 years.

Method. Women admitted for abdominal hysterectomy due to benign uterine conditions were enrolled in the study as they met the

entry criteria: uterine size not exceeding 14 weeks and not exceeding 14 cm in length and 9 cm width on ultrasound. Nulliparous women without uterine prolapse, women with previous pelvic surgery, women with previous caesarean section and women with cervical dysplasia were included. All cases were performed either by the author or a registrar in training under the direct supervision of the author or a consultant of the same unit with experience in vaginal surgery. Patient characteristics, hospital stay and intraoperative complications were reported.
Results. Before the beginning of the study the percentage of VH in our institution was 9.8% of all the hysterectomies, performed mainly for uterovaginal prolapse. Extending the indication for VH and introducing LAVH increased the number of VHs, reaching at the end of the study 39.3% of all hysterectomies. During the years of the study the laparoscopic component of the VH dropped at the same time and the number of VHs without laparoscopic assistance increased.
Conclusion. This study demonstrates that extending the indication for VH and introducing LAVH leads to increased numbers of VH.

Preoperative urodynamic studies: Is there value in predicting postoperative stress urinary incontinence in women undergoing prolapse surgery?
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Background. Pelvic organ prolapse (POP) is a common condition affecting women worldwide. It has been suggested that urodynamic studies (UDS) be performed as part of the preoperative work-up of patients undergoing prolapse surgery. Some women with POP have occult stress urinary incontinence (OSUI) and even if subjectively continent, have a higher incidence of developing de novo stress urinary incontinence (SUI) following prolapse repair.
Objective. To determine the predictive value of preoperative UDS, with manual prolapse reduction, in identifying women with OSUI, likely to develop postoperative SUI.
Method. This was a retrospective study, including all women who had prolapse surgery during the period January 2006 - December 2011. Patients were identified from past urogynaecology theatre lists. Patients received routine pre-operative UDS. Manual reduction of the prolapse was performed in the standing position, with a cough test at maximum bladder capacity. Patients demonstrating urodynamic SUI or OSUI were offered a concomitant anti-incontinence procedure. Patients were followed up 6 weeks postoperatively and subsequently only if any problems arose.
Results. One hundred and thirty-one women were included in the study. Ninety-one women had no urodynamic SUI. Twenty of these women had evidence of OSUI. Sixteen of these patients with OSUI (16/20) had concomitant anti-incontinence procedures and one developed SUI symptoms postoperatively. Four women (4/20) had prolapse surgery alone and of these, 3 had postoperative SUI symptoms. Of the 71 who had no urodynamic SUI or OSUI, 3 developed postoperative SUI symptoms. The manual reduction test had a sensitivity of 42.9% (95% confidence interval (CI) 9.9 - 81.6) and a specificity of 98.5% (95% CI 92.0 - 99.9). The positive predictive value was 75.0% (95% CI 19.4 - 99.3), with a high negative predictive value of 94.4% (95% CI 86.2 - 98.8).
Conclusion. Manual reduction of prolapse at time of UDS can identify those patients who are likely to remain continent following prolapse repair surgery. It can be a valuable tool in preoperative counselling, especially in the patient requesting a concomitant anti-incontinence procedure. Further research with larger numbers is needed to help determine the true value of UDS and manual reduction in the patient with POP.

Laparoscopic surgery for rectovaginal endometriosis: A retrospective descriptive study from a single centre
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Background. Rectovaginal endometriosis accounts for 5 - 10% of cases of endometriosis and constitutes one of the forms of deep infiltrating endometriosis and the most difficult to treat surgically. There are currently no studies, to our knowledge, on this topic in a South African (SA) context.
Objective. To document the outcomes of patients undergoing laparoscopic surgery for rectovaginal endometriosis.
Method. A retrospective audit of women undergoing laparoscopic surgery for rectovaginal endometriosis at Vincent Pallotti Hospital's Aevitas Fertility Clinic was undertaken, identified from a surgical database based on medical aid coding, including a review of individual case notes. Patients were telephonically contacted to gather any missing information and to assess further outcomes. A total of 112 consecutive patients suffering from rectovaginal endometriosis were included. Interventions: Laparoscopic surgery for treatment of deep infiltrating, namely rectovaginal, endometriosis.
Results. *Primary outcome*: Complications included one patient requiring a blood transfusion (0.9%), 3 cases of rectovaginal fistula (2.7%), 2 bowel injuries (1.8%) – detected and managed intra-operatively, 1 ureteric injury (0.9%), 1 pelvic abscess (0.9%) and the need for 3 urgent re-operations (2.68%). *Secondary outcome*: Of the 71 patients desiring fertility, 39 (54.9%) fell pregnant with 27 (69.2%) of these spontaneous pregnancies.
Conclusion. To our knowledge this is the first study assessing surgical outcomes in the management of deep infiltrating endometriosis from SA. These outcomes are in keeping with complication rates quoted in the international literature. Most of the surgery was performed using the shaving technique, in keeping with international trends, while 14 cases required segmental resection owing to extensive disease. In trained hands laparoscopic surgery is a valid management option in the management of rectovaginal endometriosis.

Meta-analysis of randomised controlled trials of tranexamic acid for prevention of postpartum haemorrhage

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Background. Postpartum haemorrhage (PPH) is a common complication of childbirth. Despite available measures for prevention of PPH this condition remains one of the main causes of maternal mortality in South Africa and around the world. Tranexamic acid (TA) may be a new option for prevention of PPH.
Objective. To determine, from the best available evidence, whether TA is effective and safe for preventing PPH.
Method. This is a meta-analysis of randomised controlled trials (RCTs). We searched the Cochrane Pregnancy and Childbirth Group's Trials Register (31 January 2014). All published, unpublished and ongoing RCTs evaluating the use of TA alone or in addition to uterotonics in the third stage of labour or during caesarean section (CS) to prevent PPH were identified. Two review authors independently assessed for inclusion all the potential studies identified as a result of the search strategy. We entered the data into Review Manager software and checked for accuracy.
Results. We identified 29 reports on 25 trials. Ten trials (2 953 participants) of mixed quality were included in this analysis. Fewer women developed PPH >500 ml (4 trials, 1 068 participants, relative risk (RR) 0.5; 95% confidence interval (CI) 0.4 - 0.7) and >1 000 ml (4 trials, 1 913 participants, RR 0.4, 95% CI 0.2 - 0.7) in both vaginal birth and CS groups. We found that TA was associated with decreased blood loss after vaginal birth (2 trials, 712 participants, mean difference 85.6; 95% CI –108.9 - –59.1), and during and after CS (8 trials, 2 241 participants, mean difference -189.9; 95% CI –201.5 - –178.3). There was no increased number of thrombotic events with the use of TA in either group; however, mild, mainly gastrointestinal side-effects were experienced more commonly with the use of TA versus placebo.
Conclusions. TA decreases postpartum blood loss and prevents PPH following vaginal birth and CS. TA is not associated with severe side-effects. The evidence suggests that TA should be considered as part of routine management for prevention of PPH.

A novel assessment of fetal wellbeing in gestational diabetic pregnancies: The fetal myocardial performance index

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Objective. To evaluate cardiac function in fetuses of gestational diabetics using the modified myocardial performance index (Mod-MPI) and mitral early (E) and late (A) diastolic velocities and to determine whether these parameters, if altered, influence perinatal outcome.
Method. Pregnant patients in the third trimester complicated by gestational diabetes mellitus comprised the study group, with matched controls. Using Doppler echocardiography the Mod-MPI and E/A diastolic velocities were determined. In addition, fetal weights, amniotic fluid indices, placental Doppler markers, i.e. umbilical artery resistance indices, middle cerebral artery resistance indices and ductus venosus pulsatility indices, and outcomes were determined in both groups.
Results. Twenty-nine patients formed the study group with 29 matched controls. The median Mod-MPI was increased (0.59 v. 0.38; $p<0.0001$) and the median E/A ratio was decreased (0.65 v. 0.76; $p<0.0001$) in fetuses of diabetic pregnancies compared with controls. An MPI >0.52 had a sensitivity of 100% and specificity of 92% for an abnormal outcome in the diabetic pregnancy. Abnormal outcomes were demonstrated in 17 of the 29 fetuses in the study group (all 17 showing an MPI >0.52), including a stillbirth and neonatal death. No abnormal outcomes were demonstrated in the control group. Placental vascular Doppler indices were similar in both groups.
Conclusions. There is significant impairment of cardiac function in fetuses of gestational diabetics which resulted in adverse perinatal outcome. Cut-off values of the Mod-MPI for adverse outcomes have been established. The Mod-MPI and E/A ratio have the potential to be integrated into routine fetal surveillance techniques in diabetic pregnancies, enabling clinicians to ascertain the timing of delivery, thus reducing perinatal morbidity and mortality.