

must be given to privacy, and the time needed may be reduced if a smaller volume is required.

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PL.56 THE CONSTRUCTION OF COMPUTATIONAL UTERINE MODELS FROM MRI DATASETS OF THE GRAVID UTERUS AND POST PARTUM UTERUS

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Introduction Our study developed geometric structures of the full term gravid and post partum uterus from clinical MRI images to provide a computational model. These geometric models contribute to the *myometrial physiome concept*¹ and ultimately will quantitatively relate non invasive measures of uterine activity to the spatiotemporal activity of the myometrium during pregnancy. This will further develop our understanding of the physiology of labour.

Methods Uterine geometry was extracted from 94 clinical MRI images of the full term gravid uterus and 612 diffusion tensor MRI images of the post partum uterus removed by hysterectomy and treated with Syntocinon post delivery. We reconstructed the coordinates of each uterus within a computer visualisation package and produced a quantitative geometric reconstruction of the uterus in the pre and post partum state.

Results Three dimensional surface models of the *in vivo* full term gravid uterus and *ex vivo* post partum uterus were produced. Quantitative comparisons of the transverse, longitudinal and anteroposterior measurements of the uterine models with the uterine anatomy in the MRI images showed that the method of extraction was accurate and reliable. The results confirm that it is possible to produce a computational reconstruction of the geometric structure of the uterus from clinical MRI datasets which will be fully illustrated.

Conclusion Computational models provide an alternate research resource and have been integrated into patient assessment in Cardiology. The uterine equivalent must be further developed with the potential to increase our understanding of the physiological mechanisms in preterm and full term labour.

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PL.57 AUDIT OF MIDWIVES' KNOWLEDGE OF NEURAXIAL ANALGESIA IN LABOUR

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Introduction Antenatal classes at our trust are delivered by midwives. During labour they are gatekeepers to mothers accessing different modes of analgesia. Advice to mothers should be accurate, void of misconceptions or bias. We audited midwives on their knowledge of neuraxial analgesia in labour.

Methods The Obstetric Anaesthetists' Association publication on labour analgesia was the standard for this audit.¹ Midwives were audited prospectively on a one to one basis.

Results Twenty seven midwives were audited. Only six perceived epidurals as the most effective analgesia in labour. Further results are depicted in Table 1.

Abstract PL.57 Table 1 Midwives' knowledge of side effects of epidurals compared to risk quoted in current guidance

Side Effect	Number of midwives who knew this as a side effect (%)	Actual risk
Failure	20 (74%)	1 in 8
Long-term backache	5 (18.5%)	No increased risk
Increased risk of assisted delivery	26 (96.3%)	1 in 7
Temporary sensory loss	15 (55.5%)	1 in 1000
Increased risk of caesarean section	10 (37%)	No increased risk
Epidural abscess	9 (33.3%)	1 in 50 000
Adverse effects on baby	4 (14.8%)	No direct risk to baby

Discussion Neuraxial analgesia in labour is associated with favourable fetal acid base profiles.^{2,3} This audit revealed a difference in knowledge amongst midwives compared with current evidence, potentially leading to mothers being misinformed on labour analgesia. A comprehensive education programme delivered by anaesthetists to midwives will address misconceptions and increase awareness on labour analgesia, ensuring mothers are provided with accurate evidence based information.

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PL.58 INCREASING THE NUMBER OF DELIVERIES AT KABUBBU HEALTH CENTRE, RURAL UGANDA, THROUGH COMMUNITY HEALTH EDUCATION. AN OBSERVATIONAL STUDY

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Introduction Uganda has a maternal mortality ratio of 440/100,000 live births. With 60 million of the world's annual 130 million deliveries occurring at home it is imperative that we encourage women to deliver in a health facility as a means to reduce maternal mortality and achieve the millennium development goals. Research undertaken in Nepal looking at the impact of community health groups, facilitated by local women, to reduce maternal mortality has shown encouraging results. Through a series of community health education sessions we aimed to increase the number of women delivering at Kabubbu Health Centre (HC).

Methods Over the period of 3 months 6 community health education sessions were undertaken in the village of Kabubbu, rural Uganda. Women were invited to attend discussion groups on family planning, safe motherhood and obstetric complications. We compared the number of women attending the antenatal clinic and delivering at Kabubbu HC before and after the intervention.

Results The average monthly deliveries increased from 6.1 to 22.8 before and after the intervention respectively. The number of women attending for antenatal care increased from 11.5 to 33.6 per week before and after the intervention respectively.

Discussion Community health education empowers women, gives them a greater understanding of their health needs and has been successful at increasing the number of deliveries at Kabubbu HC. Community health education can be used alongside other interventions as a means to reduce maternal mortality.

PL.59 FACTORS TO OVERCOME DELAYED DISCHARGE FOLLOWING CAESAREAN SECTION WITH AN ENHANCED RECOVERY PATHWAY

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Enhanced recovery (ER) pathways improve clinical outcomes, the Department of Health (DoH) suggesting several applications. Current published data within obstetrics is limited. Increased pressure on maternity beds; 39% of maternity units in England closing to admissions on one or more occasions in the year to 31 March 2007 [2], highlights a pivotal throughput parameter to benefit from an ER pathway.

Methods Survey of patients following elective caesarean section (CS) over a five-month period. Questionnaire designed against DoH guidelines [1].

Results 50 surveys completed.

100% of patients were awake in recovery with regular analgesia prescribed. Mean pain score was 0.1/10. 28% of respondents were nauseated or vomited in recovery. Mean time until discharge criteria were met was 153 minutes. Mean time for actual discharge from recovery was 213 minutes. 15% of patients were eating before discharge. 97% had a motor block on discharge. Urinary catheter remained in situ after 12 hours in 79% of patients. 100% of patients remained in hospital after 36 hours.

Discussion Patients delayed from returning to the ward may follow delayed discharges on the receiving ward, staff requirements to permit safe transfer and prolonged presence of an epidural (7%) and urinary catheters (79% after 12 hours). Promoting urinary catheter removal at 6 hours on a dedicated 'receiving bay' may reduce length of stay.

DoH suggests a change of culture may accompany discharges at 24 hours (providing all recovery factors have been cleared). We plan to implement a formal ER programme and re-audit in six months.

PL.60 CONSEQUENCES OF FAILED INSTRUMENTAL DELIVERIES- HOW BAD IS IT?

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Background Unsuccessful instrumental delivery (ID) is typically associated with increased risks of adverse outcomes. We aimed to investigate the fetal and maternal consequences of failed instrumental deliveries in our unit.

Methods Data was collected prospectively as part of ongoing audit of all IDs performed in our unit between October 2008 and March 2012.

Results Complete records were available for 2664 IDs. Delivery was unsuccessful in 75 (2.8%). There was 1 maternal bladder injury and 1 hysterectomy. Unsuccessful ID was associated with increased blood loss (EBL), increased decision to delivery interval (DDI) and lower fetal Ph ($p < 0.001$ Mann-Whitney-U, table).

Abstract PL.60 Table 1

Table	Unsuccessful		Successful	
	Median	Interquartile range (IQR)	Median	IQR
Arterial Ph	7.17	7.13–7.20	7.21	7.16–7.26
Venous Ph	7.22	7.17–7.26	7.29	7.24–7.33
DDI (mins)	47	32–62	18	10–37
EBL (mls)	650	500–900	400	300–600

Sequential instruments were used in 189 (7%), and were successful in 182/189 cases (96%). Compared with successful use, unsuccessful sequential instruments were associated with higher blood loss, increased DDI and lower fetal Ph ($p \leq 0.06$, Mann Whitney-U). Two fetal injuries occurred where sequential instruments failed compared to 3 injuries out of 68 unsuccessful deliveries where only 1 instrument was used ($p = 0.07$ fishers exact test).

Conclusions ID was associated with a low risk of failure, but failure was associated with worse outcomes. Although sequential instrument use was associated with the poorest outcomes, outcomes were better if vaginal delivery was achieved in this situation. This highlights the need for careful and competent use of instruments in the presence of experienced operators.

PL.61 PERIPARTUM HYSTERECTOMY – ANTICIPATED VERSUS UNANTICIPATED

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Background Peripartum Hysterectomy (PH) is a rare complication of pregnancy¹. This study sought to determine the rate of PH in our population and compare aetiology and clinical outcomes in cases of PH that are anticipated and unanticipated.

Method Cases of PH for obstetric haemorrhage between 2006 and 2011 were identified from an MOH database. Data included maternal demographics, subspecialty of operator, aetiology for PH, estimated blood loss (EBL), RCC units transfused, surgical complications and length of hospital stay.

Results 26 cases of PH (0.6/1000) were identified; 17 anticipated and 9 unanticipated. Placenta accreta (PA) was the indication for PH in 15/17 anticipated and 4/9 unanticipated cases. The remaining cases were attributed to uterine rupture (3/9), placenta previa, cervical ectopic and atony.

Abstract PL.61 Table 1

	Anticipated n = 17	Unanticipated n = 9	p value
Mean Age (yrs)	34 +/-5	36 +/-3	
Mean Parity	3	2	
Mean EBL(L) Range	5.5 +/-3.6 1.3–12.0	6.6 +/-3.9 2.8–14.3	0.89
RCC units transfused	7.2 +/- 5.2	9.4 +/- 4.8	0.4
Intraoperative Complications	41.1%	33.3%	
Mean Operating time(mins)	136 +/-63	190 +/-95	0.11
Gynae Oncologist	88%	33%	

Discussion The majority of cases of PH are anticipated because of prenatal diagnosis of placenta accreta and are more likely to undergo elective delivery by a gynae-oncologist. Despite this EBL, RCC transfusion and postoperative complications are not significantly different from unanticipated cases of PH, possibly reflecting the severity of cases diagnosed antenatally. Continuing research is required to improve the prenatal diagnosis of placenta accreta and to reduce perioperative blood loss with measures such as interventional radiology².