Pick of the Posters #1
Research & Audit

Dr Matt Wilson
Getting to the heart of the matter.....
ONE YEAR REVIEW OF OBSTETRIC PATIENTS WITH CARDIAC DISEASE REFERRED TO THE ANAESTHETIC HIGH RISK CLINIC

K E Bramley, K Litchfield

Place: Princess Royal Maternity Unit, Glasgow Royal Infirmary

Patients: Obstetric patients with cardiac disease attending Anaes. High Risk Clinic in 2009

Summary: 29 patients identified: Median age 30 yrs.
CHD 44.8%, Arrhythmia 20.7%, Valvular disease 13.8%, IHD 3.4%
96.6% documentation of anaesthetic plan in notes
No identifiable objective risk stratification

Outcomes: 4 PPH, 1 VT, Mortality = 0%

Delivery mode: C-S 48.3%

<table>
<thead>
<tr>
<th>INVESTIGATED FACTOR</th>
<th>NUMBER (n)</th>
<th>PERCENTAGE (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mode of delivery</strong></td>
<td></td>
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<tr>
<td>Vaginal</td>
<td>14</td>
<td>48.3</td>
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<td>3.4</td>
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<td><strong>Total</strong></td>
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<td>2</td>
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<td><strong>Total</strong></td>
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<tr>
<td><strong>Anaesthetic Technique</strong></td>
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<tr>
<td>Spinal</td>
<td>9</td>
<td>64.3</td>
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<tr>
<td>General Anaesthesia</td>
<td>2</td>
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<tr>
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<tr>
<td>Epidural</td>
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Anaesthetic management in childbirth in women with cardiac disease – history matters
Sarah Williams, Frank Schroeder, Renate Wendler, Department of Anaesthesia, St George’s NHS Trust

- Five year review of 109 pregnancies in parturients with cardiac disease
- CHD 36% (Corrected 19%, uncorrected 17%), Arrhythmia 24%, Valvular 28%, Cardiomyopathy 3%
- 19 pregnancies stratified high-intermediate risk, based on predictors for complications

Neonatal outcomes:
- Prematurity 11%, IUGR 10%, Low Apgar 2%
  - Neonatal complications almost doubled in high risk group

- Thorough assessment of medical history in all recommended
Blood sports
J Kaur, R Pandey, K Dasgupta, A Joseph. University Hospitals Leicester

- MOH is leading cause of morbidity and mortality.
- Retrospective analysis of obstetric database 2001 to 2011.
- Cases with blood loss > 1500 ml and mode of delivery were identified.
- Deliveries: 5380 to 6280 [↑16.7%]
  - MOH: 32 (0.6%) to 176 (2.8%) [↑450%]
- National MOH rate 6.7 per 1000 (2005)
- Further analysis is necessary to identify cause(s) for the increased incidence and national trends in the UK need reviewing.
Trends in Major Obstetric Haemorrhage (MOH) cases in a university hospital: A decade on.

JKaur, RPandey, KDasgupta, AJoseph

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• Retrospective analysis of obstetric database 2001 to 2011.
• Cases with blood loss > 1500 ml and mode of delivery were identified.
• Deliveries: 5380 to 6280 [↑16.7%]
• MOH: 32 (0.6%) to 176 (2.8%) [↑450%]
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• Further analysis is necessary to identify cause(s) for the increased incidence and national trends in the UK need reviewing.
Peripartum hysterectomy – an anaesthesia perspective
MA Barry, B Byrne, RA Fanning
Coombe Women and Infants University Hospital, Dublin

- Retrospective analysis
- 28 Peripartum hysterectomies 2006-2011, data for 26 cases
- Incidence of 0.66/1000 deliveries
- Mode of delivery in all cases was by Caesarean Section (50% elective & 50% emergency)
- 77% performed during normal working hours
- 16 of the 26 cases (61.5%) were counselled about risk of hysterectomy pre-delivery (3 elective hysterectomies for malignancy)
- Factors influencing choice of anaesthetic included: a suspicion of morbidly adherent placenta, an expectation of prolonged surgery, occurrence of major haemorrhage and patient request
Weight watchers...
Attendance at the anaesthetic BMI antenatal clinic – does it increase uptake of labour epidural?

Savic L, Mcdonnell E, Lyons G  
Department of Obstetric Anaesthesia, St James’ University Hospital, Leeds

• CMACE/RCOG recommendation: Pregnant women with a BMI >40 kg/m2 to attend an anaesthetic high risk antenatal clinic. A key aim of this clinic is to promote the use of labour epidural.

• Retrospectively analysis of all referrals to the clinic over a two year period.
• Referrals for high BMI alone analysed separately, and further subdivided into clinic attenders and non-attenders.

• 111/225 (49%) referrals for BMI>40 alone, 73% of whom attended clinic.
• No difference age, ethnicity, BMI attenders vs.non-attenders
• No difference in uptake of labour epidural, even when adjusted for age, BMI and parity.
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- No difference age, ethnicity, BMI between attenders vs. non-attenders.
- No difference in uptake of labour epidural, even when adjusted for age, BMI and parity.

- Multiparous women were less likely to attend, or to have a labour epidural.
- We question whether routine referral for women of all parities can be justified.
An audit of epidurals in morbidly obese parturients
KG Srinivas, C Elton, Leicester, UK

- CMACE/RCOG recommends antenatal anaesthetic assessment and early epidurals for morbidly obese women
- Retrospective audit of 76 women with BMI>40 who had emergency LSCS
- Divided into two groups (n=38) depending on attendance to antenatal clinic
- Decision to delivery time (DDT) calculated for Category 1 C-Section

<table>
<thead>
<tr>
<th></th>
<th>Attended clinic</th>
<th>Did not attend clinic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total no</td>
<td>38</td>
<td>38</td>
</tr>
<tr>
<td>Epidural for labour</td>
<td>24 (63%)</td>
<td>18 (47%)</td>
</tr>
<tr>
<td>Regional technique for LSCS</td>
<td>37 (97%)</td>
<td>32 (84%)</td>
</tr>
<tr>
<td>GA for LSCS</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Mean DDT* for Cat 1 LSCS with epidural in-situ</td>
<td>21 min</td>
<td>23 min</td>
</tr>
<tr>
<td>Mean DDT for Cat 1 LSCS without epidural in-situ</td>
<td>35 min</td>
<td>39 min</td>
</tr>
</tbody>
</table>

Results suggest attending antenatal clinic modifies behaviour in opting for epidural in labour and presence of an epidural reduces DDT for category 1 LSCS
Expensive scare
Invasive Monitoring within the Maternal Critical Care Unit
B James, P Barclay, Liverpool Women’s Hospital

- Invasive BP monitoring required for optimal care of critically ill parturients
- Frequent damping & technical failure
- CMACE recommendation “Improve care in managing sick patient”

- Audit of invasive arterial lines 4/52 period
- Indication for insertion
- 8-12 hour assessment vs. local guidelines

- 42 admissions, 14 IABP
- 11 haemorrhage, 1 PET, 1 Sepsis, 1 cardiac

<table>
<thead>
<tr>
<th>Compliance (%) [95% CI]</th>
</tr>
</thead>
<tbody>
<tr>
<td>NaCl infusion pressurised to 300mmHg</td>
</tr>
<tr>
<td>Pressure transducer at correct level</td>
</tr>
<tr>
<td>Giving set free of air</td>
</tr>
<tr>
<td>Giving set free of blood</td>
</tr>
<tr>
<td>Optimally damped arterial trace</td>
</tr>
</tbody>
</table>

- Improvement after ‘Laminated Troubleshooter’ Intervention
Where to start? Funding maternal critical care patients.

JC Roberts, B Lomas, D Dreniw and S Wheatly, UHSM, Manchester

Background
• 5% of women require critical care on delivery suites in the UK.
• High dependency care within maternity units is a criterion of the Clinical Negligence Scheme for Trusts
• The financial burden of delivering critical care within maternity units is currently being financed from existing budgets.
• The critical care minimum dataset (CCMDS) was developed to fund patient activity via payment for results.

Methods
Prospective 3 month data collection of CCMDS

Results
42/807 births (5.2%) required higher level care. 22 fulfilled criteria for data collection
Single organ support: 46 patient-days, 2 organ support: 5 patient-days
3 women required ICU care

<table>
<thead>
<tr>
<th>Type of Organ Support</th>
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<tbody>
<tr>
<td>Basic CVS</td>
<td>44 days</td>
</tr>
<tr>
<td>Basic RS</td>
<td>2 days</td>
</tr>
<tr>
<td>Basic CVS &amp; RS</td>
<td>4 days</td>
</tr>
<tr>
<td>Advanced CVS &amp; Basic RS</td>
<td>1 day</td>
</tr>
</tbody>
</table>

Discussion
"Cost" of maternal HDU provision difficult to estimate, CCMDS is a good place to start.
Prospective data collection on-going by dedicated MW staff
Commissioner & Finance involvement sought.
Status of Magnesium therapy uncertain
Obstetric critical care in South West Uganda - an 18 month survey of maternal critical care admissions and outcomes

K Webster, H Buckley, S Ttendo

- Tertiary referral centre – Mbarara Hospital, Uganda.
- Maternal mortality 430/100,000
- Critical care database interrogation.
- 20 cases (21% of total admissions). **Mortality 45%**.
- 2-bed unit, highly motivated critical care team.
- Late presentation and undiagnosed sepsis.
- Power & oxygen supplies unreliable

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>Number of cases</th>
<th>Mortality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sepsis</td>
<td>6</td>
<td>50%</td>
</tr>
<tr>
<td>Ruptured uterus</td>
<td>6</td>
<td>50%</td>
</tr>
<tr>
<td>Eclampsia</td>
<td>3</td>
<td>33%</td>
</tr>
<tr>
<td>other</td>
<td>5</td>
<td>40%</td>
</tr>
</tbody>
</table>
“Fool if you think it’s over.....”

Chronic pain after Caesarean Section
Persistent Pain Following Caesarean Section: a Retrospective Questionnaire Based Survey of 150 Women

I Mihaylov, T Rajamanickam, I Suri
Department of Anaesthesia, South Warwickshire NHS Foundation Trust, Warwick, UK

Introduction
• Pain is considered persistent when it has lasts for at least 2 months\(^1\)
• Reports of prevalence of persistent pain following CS vary widely: 12 – 40%\(^2\)

Methods
• Retrospective questionnaire survey July – Sept 2011
• N = 150 consecutive women underwent CS ~ 12 moths previously
• Obstetric / anaesthetic data obtained from patient notes

Results
• Response rate 49% (74/150)
• Persistent pain (≥ 2 months): 30% (22/74)
• 16/22 reported moderate to severe persistent pain
• Neuropathic features in 21/22
• 17/22 reported impact on daily routines
• 12/22 reported sleep disturbance

Conclusion
• Persistent post CS pain may be significant but underestimated problem
• controlled studies necessary to identify contributing factors

Duration of Pain Reported by All 74 Responders

- <3/52 (35%)
- 3/52 - <2/12 (35%)
- 2/12 - <5/12 (7%)
- 5/12 - <12/12 (4%)
- ≥12/12 (19%)
Prevalence of Chronic pain after Caesarean delivery

S. Muthukrishnan¹, K.Soundararajan², K.Litchfield³,
1.Anaesthetic Registrar, Western Infirmary, Glasgow, UK,
2.GP Trainee, Jamieson Medical practice, Glasgow, UK
3. Consultant Anaesthetist, Princess Royal maternity Unit, Glasgow

Introduction and Aim
Prevalence of chronic pain after CS reported 6% - 18%.
Aim to determine prevalence of chronic pain after CS requiring at least one visit by the patient to the GP.

Method
Women at a single General Practice who delivered by CS in 5 year period 2006 -11.
Pain after CS which persisted for more than 2 months.
Prevalence of chronic pain with 95% Calculated

Results
225 patients underwent CS during the audit period.
Prevalence of chronic pain following CS requiring at least one visit to GP (with 95% CI) was 26/225 11.6% (7.7% to 16.5%).

7 (3.1%) scar; 13 (5.8%) backache; 4 (1.7%) pelvic girdle pain and 2(0.8%) had abdominal pain.

No secondary referrals
Most (21/26) with chronic pain ≤2GP visits
5/6 patients with previous history of pain related problems developed persistent pain.

<table>
<thead>
<tr>
<th>Persistent pain after CS</th>
<th>No</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>(N = 198)</td>
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<td></td>
</tr>
<tr>
<td>Elective CS (103)</td>
<td>95</td>
<td>8 (7.7%)</td>
</tr>
<tr>
<td>Emergency CS (121)</td>
<td>103</td>
<td>18 (14.9%)</td>
</tr>
<tr>
<td>Previous Chronic pain</td>
<td>1</td>
<td>5</td>
</tr>
</tbody>
</table>

Discussion
We did not find statistically significant difference in patients developing persistent pain following either emergency or elective caesarean section (p=0.098).
“The greatest deception men suffer is their own opinions.”

Leonardo da Vinci (1452-1519)
Outcomes of OAA approved/non-approved surveys

JP Campbell, EJ Robson, SM Yentis

• We reviewed OAA approved and non-approved surveys in obstetric anaesthesia carried out between 1998 and 2010.
• We determined whether each survey was subsequently presented, published and cited.

<table>
<thead>
<tr>
<th></th>
<th>OAA (n = 108)</th>
<th>Non-OAA (n = 10)</th>
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<tbody>
<tr>
<td>Presented:</td>
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<tr>
<td>OAA</td>
<td>76 (70%)</td>
<td>7 (70%)</td>
</tr>
<tr>
<td>Other</td>
<td>7 (6%)</td>
<td>1 (10%)</td>
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<tr>
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<td>70 (65%)</td>
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</tr>
<tr>
<td>Correspondence</td>
<td>10 (9%)</td>
<td>1 (10%)</td>
</tr>
<tr>
<td>None</td>
<td>19 (18%)</td>
<td>Unknown</td>
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<tr>
<td>Citations:</td>
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<td></td>
</tr>
<tr>
<td>Abstract</td>
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<tr>
<td>Paper</td>
<td>199 (6.9)</td>
<td>3 (3.0)</td>
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<td>0 (0)</td>
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• Most national surveys in obstetric anaesthesia are approved by the OAA.
• Most surveys are presented and published in some form.
There were 108 OAA-approved surveys.

One survey in 2009 and all 13 in 2010 used the e-survey system; the rest were postal apart from four ad-hoc email/web-based surveys.

Number (columns) and response rates (solid line) of OAA-approved surveys 1998-2010. Blue = presented at national/international meetings.
The loony fringe......?
Epidural then spinal at the same interspace: Is it safe?
A M Livingstone, RM Williamson, Royal Alexandra Hospital, Paisley

**Background**
CSE effective for analgesia & anaesthesia in C-S
Two needle CSE technique: theoretical risk of epidural catheter damage
Spinal “First” is recommended

**Methods**
16 g Tuohy to place 20 g Epidural catheters in gelatin
Direct contacts made between catheter & 25g Whitacre spinal needle
10 catheter segments
Force applied by scalpel to catheter in 2.5 N steps
Leak test with Methylene Blue

**Results**
No breeches of epidural catheter with spinal needle detected
Force required to damage catheter with scalpel >13N
Mean force required to bend spinal needle = 2.53N (95% CI 2.42-2.64)

**Discussion**
Results suggest it should not be possible for an epidural catheter to be damaged by a spinal needle
Influence of Maternal Deprivation on Management of Labour and Delivery in the West of Scotland

R. Junkin and M. Shaw, Kilmarnock

• 1763 consecutive deliveries
• Postcode at booking linked to Scottish Index of Multiple Deprivation (SIMD) score
• Majority of our patients came from deprived areas (fig.1)
• As deprivation lessened and patients became more affluent they tended to be
  — older,
  — have higher labour epidural rate,
  — and have higher caesarean section rate (with higher proportion electives).
  — These increased interventions were despite a falling BMI

Figure 1.
Distribution of deprivation within our obstetric population
A man who ticks all the right boxes.......
A simple tick box system improves documentation on the obstetric epidural anaesthesia record: a complete audit cycle

MJ Diacon, A Panickar, and IJ Wrench,
Royal Hallamshire Hospital, Glossop Road, Sheffield, S10 2JF, UK

Introduction
Doctors have an overriding duty to “keep clear, accurate and legible records”. From a medico legal point of view, “if it’s not written down, then it didn’t happen”. We performed a service evaluation to see whether the introduction of a new epidural chart with tick boxes improved the quality of information recorded by anaesthetic staff.

Methods
We audited 100 old charts prior to the change and 100 new charts following it. We looked at the recording of:
- risks explained to the patient (failure, headache, drop in blood pressure and nerve damage)
- aseptic technique used (wearing of sterile gown & gloves, hat, mask, use of chlorhex skin prep and sterile drapes)

Results
The recording of aseptic technique and discussion of side effects was significantly improved following the introduction of the new epidural chart with the tick boxes (p<0.001 – Chi Square for both).

Discussion
The design of epidural charts can be an important tool to influence clinician practice and recording of information. This clearly has implications for the design of medical proforma generally.

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References
Research matters....
Funding bodies

- Wellcome
- MRC
- NIHR
  - EME
  - HTA
  - RfPB
  - I4I
- Fellowships
- National Charities
Translating science into better health

NIHR Evaluation, Trials and Studies (NETS) programmes- from 2012

Health Services and Delivery Research
Established 2012

Health Technology Assessment
Established: 1993

NETSCC

Efficacy and Mechanism Evaluation
Funded by the MRC
Managed by NIHR
Established: 2008

Public Health Research
Established: 2008
UK Multicentre randomised trial of cell salvage for caesarean section in women at risk of haemorrhage.
Prevention of oxytocin-induced hypotension by co-administration with phenylephrine.
ABM Kamrul Hasan, Anand H Kulkarni, S Durairajan, Lim Kim Hong, Zulaidi Latif, H L Kaul
Department of Anaesthesia, RIPAS Hospital, Bandar Seri Begawan, Brunei Darussalam.

Objectives:
To compare the incidence of hypotension, changes in heart rate and emetic effects after bolus dose of oxytocin with co-administration of either 0, 100 or 200 mcg phenylephrine (PE) after delivery of the baby in elective caesarean section.

Methods:
- Prospective, Randomized, double blind study
- Ethical clearance & written informed consent
- 90 ASA 1 & 2 women for LSCS under SAB
- Monitoring- SpO2, Non-invasive BP, ECG
- Oxytocin 10 IU IV bolus followed by inf @ 5 IU/hour
- Baseline NIBP, HR- Just before oxytocin bolus
- Hypotension- SBP less than 20% from baseline
- Tachycardia- HR more than 20% from baseline

Results:

<table>
<thead>
<tr>
<th>Group</th>
<th>1 Minute</th>
<th>2 Minute</th>
<th>3 Minute</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group A (PE=0): 46.7%</td>
<td>20%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Group B (PE=100): 13.3%</td>
<td>6.7%</td>
<td>3.3%</td>
<td>0%</td>
</tr>
<tr>
<td>Group C (PE=200): 0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>

Conclusion:
Co-administration of phenylephrine with oxytocin has been found to be effective and 200 mcg is more effective than 100 mcg of phenylephrine in prevention of oxytocin induced hypotension in caesarean delivery without any increase in untoward effects.
Where to start? Funding maternal critical care
JC Roberts, B Lomas, D Dreniw and S Wheatly

• Introduction of Critical care minimum dataset into delivery suite
• 3 Month audit
• Estimation of potential income
• Discussion with Finance department
• On-going discussion with commisioners
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Methods
We audited 100 old charts prior to the change and 100 new charts following it. We examined the recording of:

- Risks explained to the patient (failure, headache, drop in blood pressure and nerve damage)
- Aseptic technique used (wearing of sterile gown & gloves, hat, mask, use of chlorhex skin prep and sterile drapes)

Discussion
The design of epidural charts can be an important tool to influence clinician practice and recording of information. This clearly has implications for the design of medical proforma generally.

References