Out of Sight, Out of Mind? An Expanded Re-Audit of Post-Dural Puncture Headache Follow-Up at the Jessop Wing

Dr David Swales, Dr Rachel Murali-Krishnan, Dr Laura Hammon and Dr Hanna Harrison

Department of Anaesthesia, Jessop Wing, Sheffield Teaching Hospitals NHS Foundation Trust

NHS Sheffield Teaching Hospitals NHS Foundation Trust

Introduction

Spinal and epidural anaesthesia form the backbone of care delivery in obstetric anaesthesia.

Post dural puncture headache (PDPH) remains a frequent complication of neuraxial intervention from both spinal and epidural anaesthesia and represents a significant cause of maternal morbidity.

National surveillance highlights the clinical importance of appropriate management: the 2020 MBRRACE-UK report noted that PDPH management had "deviated significantly from accepted practice" in some cases and referenced an association with two maternal deaths reported in the 2014 MBRRACE-UK report 2 [1].

Our tertiary obstetric unit conducts approximately 5,500 deliveries and 1,280 epidurals annually.

A 2019 audit demonstrated variable adherence to Obstetric Anaesthetists' Association (OAA) guidelines (2018)**. This expanded re-audit evaluates the impact of service changes, including introduction of a PDPH proforma, and assesses adherence to OAA guidelines** [2,3] .

Methods

Patients with suspected or confirmed accidental dural puncture (ADH) or PDPH (between April 2023 and October 2024) were identified from electronic theatre and anaesthetic handover records.

This represents **data from 8,851 deliveries and 2,028 epidurals**.

Medical records were reviewed to assess documentation of inpatient assessment, management, follow-up, and epidural blood patch (EBP) performance.

Data was compared with OAA 2018 guideline standards & results of our previous audit.

Results

	Audit 2019	Re-Audit 2025
Data review period	1095 days	580 days
No. of deliveries	20153	8851
Suspected cases ADP/PDPH	45	36
Epidural PDPH rate	0.47%	0.84%
Epidural ADP rate	0.64%	1.5%
PDPHs receiving EBP	61.1%	48.1%

Strong Compliance (≥80%)

Review within 24hrs when PDPH suspected:	**89%**
History taken where PDPH suspected:	**97%**
Physical examination performed when PDPH suspected:	**94%**
Regular analgesia offered:	**89%**
Hydration maintained:	**87%**
EBP offered (with conservative treatment failure):	**87%**
Written consent for EBP:	**88%**
EBP technique documented:	**88–94%**
Delivery of advice on when to contact for further review:	**86–92%**
Post-discharge follow-up:	**83%**

Targeted areas for improvement

Daily review documented until headache resolved:	**60%**
Emergency contact information documented given to patient:	**19%**
Documentation of GP Letter delivery:	**38%**
Review within 4h post EBP performance:	**25%**

Discussion

Successes

This audit demonstrates improved documentation of audit standards related to the introduction of a PDPH review proforma. A more uniform approach to review & documentation has facilitated a more detailed audit of 2018 OAA guidelines.

Overall compliance with OAA standards was high across key areas including history-taking, examination, conservative management and technical aspects of EBP delivery, with most domains achieving ≥80% compliance.

A higher ADP and PDPH rate may reflect **improved case capture** via a more structured review process and a more robust audit trail system.

The lower EBP rate may indicate **improved identification** to include those milder PDPH cases that do not require intervention.

Areas for improvement

While overall care and follow-up pathways are in well defined, we fall short in our documentation and therefore evidence of best care delivery. This is evident for:

- Daily follow-up, **particularly after discharge**
- Patient information delivery; specific to accessing urgent review for concerning features or concerns
- Communication with primary care

This **may reflect inadequacies of paper records but highlights the need for more robust digital documentation** systems. Since the time of this audit, Sheffield teaching hospitals has transitioned to a more comprehensive electronic patient record (EPR), making our paper based proforma obsolete.

Actions

1. Generation of electronic templates to aid documentation (including patient delivered information)
2. Focused development of local follow-up after neuraxial intervention
3. Establish electronic recording system to facilitate review (immediate & for audit purposes)
4. Departmental education to describe the digital transformation alongside reinforcing guideline adherence

Electronic patient recording systems have the potential to facilitate and enhance our documentation as well as enable structured reviews of care through generating 'big data'. We have yet to see the application of this is our trust. We continue to need to be vigilant for the complications of neuraxial interventions and pursue routine follow-up to minimise failed identification and lost opportunities for safety netting and supportive care.

References

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2. Russell, R. et al. Treatment of obstetric post-dural puncture headache. Part 1: conservative and pharmacological management Int J of Obstet Anesth. 2019; 38:93-103
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