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Audit

Obstetric anal sphincter injuries care bundle: innovative approach to improve perineal care in maternity setting

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ABSTRACT

Perineal injuries during vaginal delivery are a prevalent issue, and obstetric anal sphincter injuries (OASI), which include third and fourth-degree perineal tears, pose significant challenges for maternal health due to potential complications such as faecal incontinence, sexual dysfunction, and impaired quality of life. The OASI care bundle (OASI-CB) was developed in 2015 in response to a concerning rise in the incidence of OASI in the UK. It was implemented in 16 NHS trusts between 2015 and 2017. The results of this implementation were extremely promising, as it was found to significantly reduce the OASI incidence while providing high-quality care to women. Through a comprehensive review of clinical data, patient outcome, and current practice in our unit, we carried out an audit with a goal to meet the standard of the care bundle by improving risk factor identification, improving clinical practices, and offering recommendations to enhance women's care and further decrease the overall incidence of OASI.

Keywords: Obstetric anal sphincter injury, Perineal trauma, Incontinence, Sexual dysfunction

INTRODUCTION

Care bundle means a set of standardised steps taken which have proven to be very effective over time. OASI-CB was introduced when rate of OASI in England tripled over a decade (2000-2011). After its implementation, there was a significant reduction in the rate of 3rd and 4th degree tears.[1] It has four elements as mentioned below: Antenatal discussion with women about OASI, and how to reduce its risk during childbirth. Manual protection of perineum (MPP), communicating with women to encourage slow birth unless declined. Mediolateral episiotomy at 60 degrees on crowning when indicated. Systematic vaginal and rectal examination even in intact perineum.

The royal college of obstetricians and gynaecologists developed a guideline for the management of 3rd and 4th degree tears post-delivery.[2] A systematic review of the perineal area, pre and post suturing vaginal and rectal examination, consent before transporting the patient to theatre, aseptic repair operation with proper lighting and pain relief are all included in this guideline. Using the recommended suture and repair methods as defined in the guideline, a qualified healthcare professional performs the repair. Upon completion of the repair, the patient is debriefed on the procedure, followed by filing an incident report and reassessment post-delivery. The guideline also recommends prescribing antibiotics, laxatives, and arranging follow-up appointments with a physiotherapist and perineal clinic to ensure optimal recovery and support for the patient.

The following are recognised risk factors for OASI, though not always related; forceps delivery, nulliparity, shoulder dystocia, prolonged active second stage >1 hr, persistent occipito-posterior position, birth weight >4 kg, induction of labour, epidural, and Asian ethnicity.[2]

METHODS

A prospective audit was conducted at our hospital between April 2023 and March 2024 to assess current practices and identify areas for improvement in reducing the incidence of OASI. The audit benchmarked local practices against the OASI-CB and RCOG guidelines, aiming to enhance the birth experience for both mothers and their caregivers. Our selection criteria were to include every single woman who sustained a third- or fourth-degree tear during this period. Data collection was carried out daily by the trust's pelvic health midwife. The women's antenatal, intrapartum and postnatal notes were then thoroughly reviewed. Additional information about risk factors, intrapartum events, surgical details, and postnatal care was gathered using the hospital database.

The audit carefully analysed the data to determine if local practices aligned with the four key elements of OASI-CB: antenatal education, MPP, episiotomy, and rectal/vaginal examination. According to RCOG guideline, the national incidence of OASI in the UK is 2.9%.[2] Our objective was to evaluate the local incidence and compare it with this national benchmark, as well as ensure compliance with green-top guideline no. 29.

Perineal tears are classified as below: First degree tear: injury to perineal skin or vaginal mucosa. Second degree tear: perineal muscles but not involving anal sphincter complex (ASC). Third degree tear: injury to perineum involving ASC-3a< 50% EAS, 3b >50% EAS, 3c both EAS and IAS torn and fourth degree tear: Anal sphincter complex + anorectal mucosa.

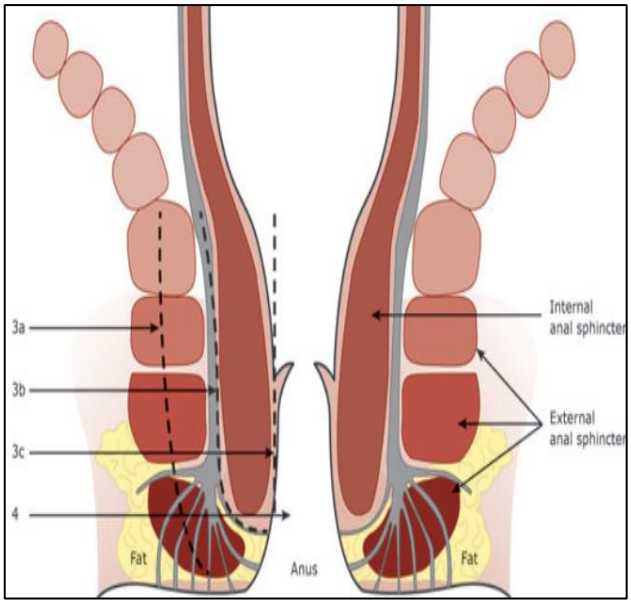

Figure 1: Classification of perineal tears.

RESULTS

Incidence of OASI in our hospital during the above-mentioned period was found to be 3.08%. Data collected over this period showed that the total number of vaginal deliveries were 1784, out of which 1396 were spontaneous vaginal births and 388 were instrumental deliveries. Incidence of OASI was found to be 2.57% and 4.64% respectively, marking the overall incidence of OASI in our hospital to be 3.08% as compared to the UK OASI rate of 2.9%.

Table 1: Incidence of OASI and its breakdown.

Spontaneous deliveries	OASI	OASI %	Instrumental deliveries	OASI	OASI %	Total vaginal deliveries	OASI	OASI %
1396	36	2.57	388	18	4.64	1784	55	3.08

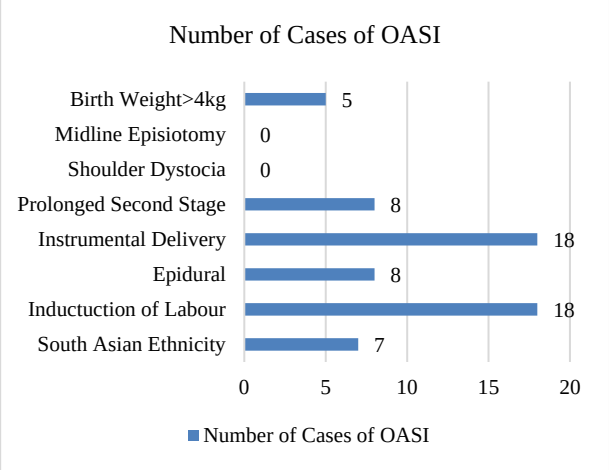

Figure 2: Risk Factors found in OASI patients (March 2023-April 2024).

Patients' data was thoroughly investigated to find various risk factors for OASI, which included analysing specific factors such as the weight of the baby (5 patients had babies with weight above 4 kg), the duration of the second stage of labour (8 patients had prolonged second stage), mode of delivery (instrumental delivery in 18), epidural anaesthesia (8 patients received epidural), induction of labour (18 patients had induction of labour), and ethnicity (7 patients were of Asian descent).

Interestingly, none of the patients encountered experienced shoulder dystocia or underwent a midline episiotomy.

Among the 55 patients who suffered from OASI, 53 patients had a 3rd degree tear, and 2 patients had a 4th degree tear, prompting us to closely examine 3rd and 4th degree tears separately.

Out of the 53 patients with third degree tears, 17 underwent induction of labour. Additionally, MPP technique as advised in OASI-CB was employed in 26 cases.[5] However, the specific perineal support method like Finnish manual protection technique FMPP was not clearly documented in all the cases. Episiotomy was performed in 16 spontaneous deliveries and 13 instrumental deliveries, whereas episiotomy was not given at crowning in 37 spontaneous deliveries and 3 instrumental deliveries.

No concern relating to consent, proficiency of healthcare provider performing the procedure, techniques utilised, type of suture material, pre and post-suturing examination, or reporting of incident pertaining to OASI was found from our audit.

Table 2: Data pertaining to third degree tear.

Variables	N
Total number of 3rd degree tears	53
IOL	17/53
Perineal protection at delivery	Hands on in 26, hands poised in 1, not documented in 26
Episiotomy	Done in 16, not done in 37. IVD 16: epi not done in 3
Consented for suturing	100% written consent
Suture material	100% mentioned
Analgesia	52 had spinal/epidural, 1 patient was repaired under local
PV and PR examination	100%
Appropriately trained operator	100%
Repair in theatre	All except 1
Pre-suturing documentation	Starting/finishing time 7 not recorded, swab/needle count 2 not recorded, by two persons 17 not recorded
Post suturing documentation	Starting/finishing time 15 not recorded, swab/needle count 1 not recorded, by two persons 20 not recorded, name of operator 2 not recorded
Post repair care	Antibiotics 2 not recorded, Laxatives not documented in 5, analgesia not documented in 2
Review before discharge by doctor	3 not reviewed
Review before discharge by physiotherapist	27 not reviewed (No weekend cover)
Appropriate follow-up plan	Perineal clinic appointment 100%, physiotherapist 3 went home without plan

From our data, third degree tears were sutured in theatre according to the guidelines, however, one patient had declined to wait for theatre availability and was able to cope with pain due to high pain tolerance. There were issues identified in the areas of documentation; especially the structured documentation of events including timing of events, suture material used, systematic explanation of procedure done and in two cases, absence of operator's name. Additionally, medications such as antibiotics and analgesics were not prescribed in two cases.

After repairs were carried out, our study showed 50 patients had debrief sessions and a clinical review at which advice about wound care was discussed. Unfortunately, three patients were completely missed for post repair review and further 27 patients were not reviewed by a physiotherapist before discharge, although follow up appointments were arranged in the outpatient setting. Of the two cases with 4th degree tear, 1 had occurred following an induction of labour leading to vaginal delivery. Perineal support was not documented, and an incident report was not filed in one case. Documentation of other aspects was completed with 100% compliance, and standard of care was met in both cases.

Table 3: Data pertaining to fourth degree tear.

Variables	N
Total no. of 4th degree tears	2
IOL	50%
Perineal protection at delivery	50%, (50% not documented)
Consented for suturing	100%
PV, PR done at end	100%
Appropriately trained operator	100%
Debriefing by consultant	100%
MDT review	100%
Care issues identified	Nil
Documentation about risk forms	50%
Repair done in theatre	100%
Catheterisation	100%
Pre-suturing documentation	Starting/finishing time, swab/needle count, 100%, by two persons 50%
Post-suturing documentation	Starting/finishing time, swab/needle count, 100%, by two persons 50%, operator's name 100%
Post repair care	Antibiotics, laxatives and analgesia=all 100%
Review before discharge	Doctors 100%, physiotherapist 50%
Follow up plan	Perineal clinic appointment 100%, physiotherapist 100%

DISCUSSION

The audit identified several key areas for improvement. One primary focus is the need to provide antenatal education to all pregnant women on reducing the risk of severe tears during childbirth. It was noted that not all women who had instrumental deliveries received episiotomies. The OASI-CB emphasizes the importance of performing an episiotomy at a 60-degree angle when the perineum is fully stretched and when deemed necessary to prevent tears. Perineal support (using the Finnish grip) should also be emphasized, unless declined by the patient.[5,6] The RCOG guidelines similarly recommend episiotomies during instrumental deliveries when indicated.[7] The audit found that perineal protection at crowning reduced the incidence of OASI.

Of the 55 patients reviewed, 14 (25%) were primigravida, out of these, 3 patients underwent forceps delivery without receiving an episiotomy. This can be improved through re-educating doctors, with a teaching session already scheduled for October 2024.

A significant issue highlighted was the need for more detailed documentation by doctors, covering all aspects of care, including hands-on procedures, episiotomies, perineal and rectal assessments, as well as structured documentation of timing and type of sutures used. Another crucial recommendation is for thorough review by care providers before discharge, offering an opportunity to properly advise patients and establish ongoing care plans.

Additionally, the use of lactulose to prevent constipation is strongly recommended, as it allows time for wound healing.[8] Prescribing antibiotics to prevent infection is also advised. The green-top guidelines emphasize on use of both lactulose and antibiotics; therefore, these should be discussed during patient review.

Finally, thorough perineal examinations, performed with adequate lighting, exposure, and analgesia, are crucial for identifying perineal tears, including OASI. A systematic vaginal and rectal examination is recommended even when the perineum appears intact, as OASI can still occur in such cases.[9]

The 9 out of 10 women experience perineal injury of some sort during labour.[10] In a survey, 85% of women with severe birth injuries reported that it has impacted their relationship with their child, 52% stated they were embarrassed from the symptoms caused by the injury, 45% suffered from postnatal depression because of injury, and 24% of women regretted having a child because of the injuries they sustained. Every effort to prevent OASI is essential for delivering the highest standard of care.

To effectively address these challenges, several key recommendations have been proposed. First, antenatal education should be promoted through various channels, including social media, while encouraging patients to engage with healthcare professionals and community midwives through antenatal classes. Consistently performing episiotomies in all instrumental deliveries is also recommended, as observational data suggest this practice reduces the incidence of OASI in such births. Additionally, increasing awareness among medical practitioners about the appropriate suture materials for different tissue types is crucial. Comprehensive training sessions on OASI-CB, as well as the prevention and management of obstetric anal sphincter injuries, should be organized for both midwives and doctors.

We also strongly recommend that a physician conducts a thorough review before discharge, ensuring the correct prescription of medications as needed.

Finally, quality improvement projects (QIPs) should be initiated to monitor compliance and effectively address the identified issues.

CONCLUSION

The OASI-CB not only empowers women to make informed choices but also equips healthcare providers with effective strategies to prevent OASI and reduce its associated morbidity. Adhering to RCOG guidelines allows the early identification of risk factors, which enhances antenatal, intrapartum, and postnatal care and recovery. Additionally, audits and QIPs play a vital role in identifying gaps in care, leading to continuous improvements and higher standards of care.

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