

Occurrence of Obstetric Anal Sphincter Injury: Comparison to National Clinical Care Standards

Sahni, S; Caris, J

Introduction

Obstetrics anal sphincter injury (OASIS) is a well documented complication of a vaginal birth. Women who experience an obstetric anal sphincter injury can have significant long-term physical and psychological consequences. It can also impact decisions on mode of delivery in subsequent pregnancies.

To reduce the incidence of third-and-fourth degree tears, the Australian commission on safety and quality in health care has released a clinical care standard on third-and-fourth degree perineal tears¹. This details the best practice care for the prevention, recognition and management of OASIS.

The aim of this study was the compare the frequency and risk factors associated with OASIS at our tertiary hospital against the Australian clinical care standards.

Design/Method

A retrospective clinical review was performed on all vaginal births occurring between April 2021 and June 2021 at our tertiary hospital in Queensland, Australia. We conducted an audit of patients who had a vaginal birth and identified those who were diagnosed with a third-or-fourth degree perineal tear immediately after delivery.

Results

A total of 1004 vaginal births occurred in this three-month period with 86% (865/1004) having spontaneous vaginal births. 8% (81/1004) required vacuum delivery, and 6% (59/1004) required forceps delivery. A diagnosis of 30 third degree tears and 1 fourth degree tear were made. 55% (17/31) were classified as 3a, 26% (8/31) were classified as 3b, 16% (5/31) were classified as 3c and 3% (1/31) were classified as a fourth-degree tear. There were no buttonhole injuries. 2% of women who had a spontaneous vaginal birth also had a third-degree tear. There is no documented episiotomy being cut for these patients. The patient who sustained a fourth-degree tear declined an episiotomy at time of vacuum delivery. 2% of vacuum deliveries and 14% of forceps deliveries had an OASIS. 71% (22/31) of OASIS occurred in primiparous women, 42% (12/31) had labour augmented and 32% (10/31) had a second stage duration lasting more than 2 hours. There was insufficient data on maternal ethnicity and fetal position to determine if this was a risk factor.

Box 4: Classification of perineal tears⁶

The Royal College of Obstetricians and Gynaecologists (RCOG) classifies perineal tears as follows:

- **First degree tear: injury to perineal skin and/or vaginal mucosa**
- **Second degree tear: injury to perineum involving perineal muscles but not involving the anal sphincter**
- **Third degree tear: injury to perineum involving the anal sphincter complex**
 - **Grade 3a tear – less than 50% of external anal sphincter (EAS) thickness torn**
 - **Grade 3b tear – more than 50% of EAS thickness torn**
 - **Grade 3c tear – both EAS and internal anal sphincter (IAS) torn**
- **Fourth degree tear: injury to perineum involving the anal sphincter complex (EAS and IAS) and anorectal mucosa.**

Note: Rectal buttonhole injuries involve a tear of the rectal mucosa with an intact anal sphincter complex and, visually, there is no obvious damage to the perineum.⁶ If not recognised and repaired, this type of tear may lead to a rectovaginal fistula. These types of injuries should be repaired.

Rectal buttonhole tears are not included in the RCOG classification and should be documented separately.

Third and Fourth Degree Perineal Tears Clinical Care Standard: Australian Commission on Safety and Quality in Health Care. (2021). Page 23.

Discussion

In order to reduce the incidence of OASIS, the Women's Healthcare Australasia CEC Perineal Protection Bundle² was implemented at most Australian Obstetric units. The gold standard of care is to prevent the occurrence of third-and-fourth degree tears in all women. Identification of risk factors associated with third-or-fourth degree tears is essential in individualizing and understanding each woman's risk profile. The Australian clinical care standard lists these risks as: Women having their first vaginal birth, women of south Asian ethnicity, infants with a higher birth weight, persistent occipito-posterior position, shoulder dystocia, prolonged second stage of labour and instrumental vaginal birth.

The Australian clinical care standard expects that 3% of all Australian women having a vaginal birth, 5% of women having their first vaginal birth, 14% of women having a forceps delivery, and 7% of women having a vacuum delivery will experience an OASIS. The aim of our research was to compare the incidence of OASIS in our tertiary hospital against the clinical care standards.

Our study found that the rate of OASIS after spontaneous vaginal births (2%), vacuum delivery (2%) and forceps delivery (14%) was comparable to the Australian clinical care standard. In fact, the rate of OASIS in vacuum deliveries was significantly lower than the standard. The largest risk factor for OASIS in our cohort were primiparous women (71%), followed by augmentation of labour (42%). Augmentation of labour was not a documented risk factor by the Australian clinical care standard. However, we feel that this is an important risk factor to consider as many women (particularly primiparous women) have their labour augmented.

The only fourth degree tear occurred at time of a vacuum delivery. The patient declined an episiotomy despite extensive counseling on its role in attempting to prevent a third-or-fourth degree tear. It is possible that this tear could have been avoided had an episiotomy been cut. This situation also stresses the importance of educating patients on the long term consequences of a third-or-fourth degree tear, and what can be done both during and prior to labour to reduce the incidence of OASIS.

Conclusion

This study found that the rate of OASIS after spontaneous vaginal births and instrumental deliveries was comparable to the rates expected by the Australian clinical care standard, and the occurrence with vacuum deliveries was less than expected.

One of the most common associations with OASIS injury that is not documented in the Australian clinical care standard is augmentation of labour. Research into the correlation between augmentation of labour and OASIS would be beneficial. The incidence of OASIS can be further reduced by improving antenatal education of patients. By explaining the importance of episiotomies in reducing the incidence of third-and-fourth degree tears there may be an increased acceptance of episiotomy at time of vaginal birth.

References

1. Third and Fourth Degree Perineal Tears Clinical Care Standard: Australian Commission on Safety and Quality in Health Care (2021)
2. WHA CEC Perineal Protection Bundle: Women's Healthcare Australia (2019)