# #88: Retrospective study evaluating risk factors and patient symptoms associated with obstetrical anal spincter injuries at a single teriatry center

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## Introduction

Obstetric Anal Sphincter Injury (OASI) is the most common cause of anal incontinence in women. Despite intrapartum diagnosis and repair 40% will refer anal incontinence (1).

## Aim

The aim of our study was to determine possible risk factors for sustaining anal sphincter tears and secondly to assess patient symptoms

## Methods and Materials

This is a retrospective observational study carried out at a tertiary University Maternity Hospital which included all patients who sustained an OASI during 1st November 2017 and 31st October 2018.
Patients were followed-up on by a multidisciplinary team at 2,4 and 6 months after delivery where a 4D Translabial ultrasound (TLUS) was performed at the four month visit(3). All deliveries were attended following basic guidelines and procedures. Manual protection of the perineum is mandatory and a rectal examination was consistently performed immediately after delivery to ensure correct diagnosis of the degree of the tear. The attending obstetrician confirmed the correct diagnosis and repaired the OASIS following local protocol. OASI was classified at our unit following Sultan's classification. Obstetrical data was retrieved from the local electronical database (Drago).

**Fig 1.** TLUS assessment of a left sided levator ani avulsion.

## Results

There was a total of 3303 vaginal deliveries at the author's center during the study period. 63 (1.9%) sustained an OASI however 7 did not return to follow-up leaving a total of 56 patients for primary analysis. Obstetrical data is found in table 1-3. Patient symptoms en graph 1 and 2.

**Table 1.** Anal sphincter tears and obstetrical data

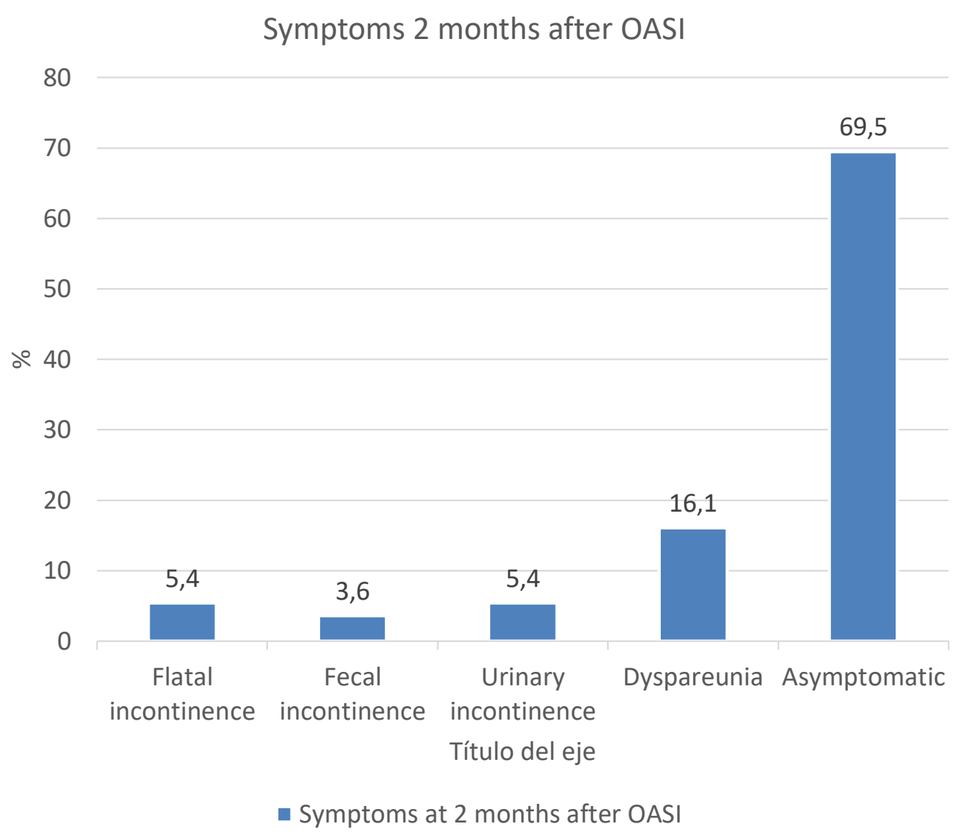
| | | OASI |
|---|---|---|
| **Mean age** | | 32 years |
| **Mean BMI** | | 27kg/m2 |
| **Primiparous** | | 84% |
| **Epidural** | | 55% |
| **Fetal Presentation** | Cephalic | 98% |
| | Breech | 2% |
| **Episiotomy** | Mediolateral | 54% |
| | Central | 5% |
| | None | 41% |
| **Birthweight >4kg** | | 7% |
| **Accoucher** | Training midwife | 5.4% |
| | Midwife | 35.7% |
| | Medical resident | 32.1% |
| | Obstetrician | 23.2% |
| | Home delivery | 3.6% |
| **Mode of delivery** | Forceps | 6.31% (26/412) |
| | Normal vaginal delivery | 0.8% (29/3272) |
| **OR 7.53 (95% CI 4.39-12.92)** | | **p < 0.001** |

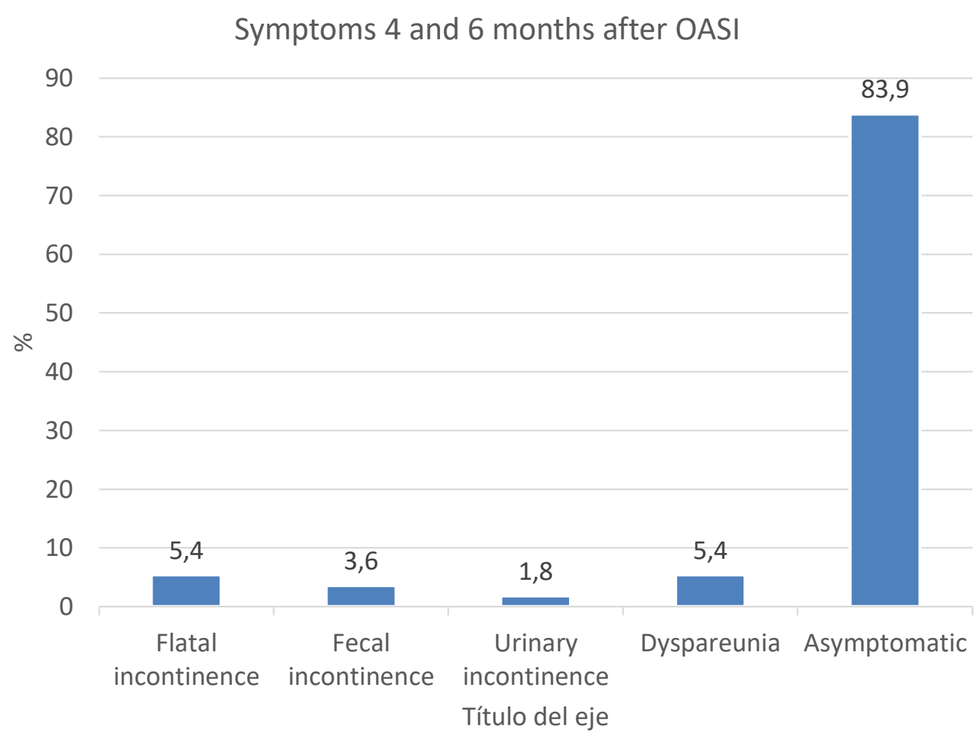
**Table 2.** Anal sphincter tear classification and mode of delivery

| | IIIA | IIIB | IIIC | IV | Missing data | Not classifiable |
|---|---|---|---|---|---|---|
| Normal vaginal delivery | 41% | 41% | 14% | 0% | 3% | 0% |
| Forceps delivery | 38% | 23% | 19% | 4% | 8% | 8% |

| | Levator ani avulsion | OR (95% CI) | P value* | Levator hiatus >25cm | OR (95% CI) | P value* |
|---|---|---|---|---|---|---|
| **Overall** | 27% | | | 23% | | |
| **Forceps delivery** | 38% | 3 (0.86-10.43) | 0.129 | 38% | 5.4 (1.3-22.7) | 0.024 |
| **Normal vaginal delivery** | 17% | | | 10% | | |

**Table 3**: Levator ani trauma among patients with OASI assessed with TLUS. *Statistical analysis performed using fisher exact test)




## Discussion

Risk factors for OASI found were forceps delivery and nuliparity in concordance with literature. Dyspareunia was the major symptom referred by patients at their first follow-up visit which decreased over time. We found a low rate of anal incontinence compared to literature which may be due to the multidisciplinary approach in the care of these women. However, this study is limited due to the sample size and patients lost to follow-up.

## Conclusions

Forceps delivery is the main risk factor for anal sphincter injury and was also associated with a higher avulsion rate, increased hiatal area and more severe tears. A considerable ammount of patients were symptomatic on follow-up. These patients should be followed up by multidisciplinary dedicated perineal clinic in order to establish best treatment options and preventable meassures.

## References

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