

## TRENDS IN OBSTETRIC ANAL SPHINCTER INJURIES OVER 10 YEARS – INCIDENCE AND RISK FACTORS

### Hypothesis / aims of study

Obstetric and Midwifery practice has changed over the last decade. This has led to rising Caesarean Section rates. Despite this the rate of Obstetric Anal Sphincter Injuries (OASIS) is thought to be rising.

The aim of this study was to look at the trend in OASIS in our unit over the last 10 years. We looked at the incidence and possible risk factors.

### Study design, materials and methods

All patients who sustained OASIS in our unit over a 10-year period (2001-2010) were included. Patients were identified via database (PROTOS). Yearly analysis of the data was performed.

### Results

#### Delivery Rates

The total number of births has increased steadily (4649 in 2001 to 6387 in 2010). There has been decline in the rate of Spontaneous Vaginal Deliveries (SVD) and Ventouse delivery with a marginal rise (7.7% to 9.3%) in rate of forceps delivery (Figure 1). The incidence of OASIS has increased from 1.3% in 2001 to 4.16% in 2010. (Figure 2)

Figure 1: Figure showing total deliveries (Y axis) and total births(X axis) per year.

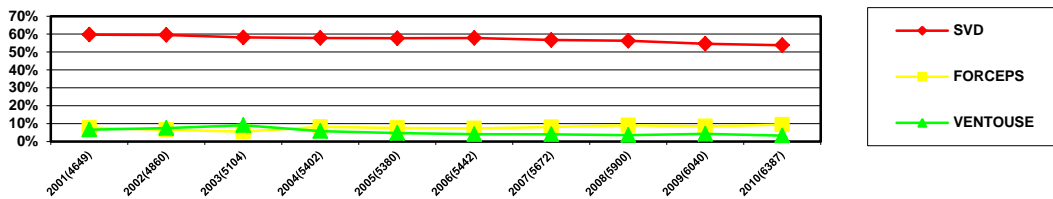


Figure 2: OASIS incidence over last 10 years

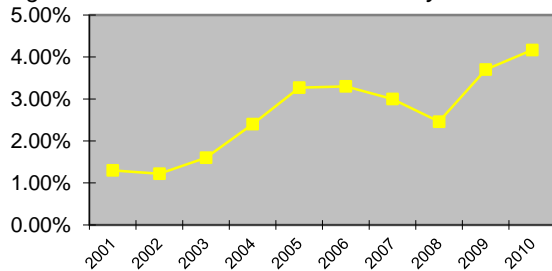
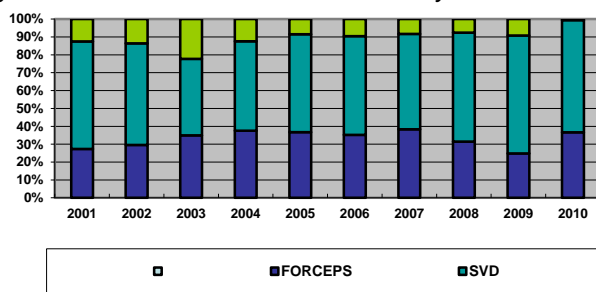
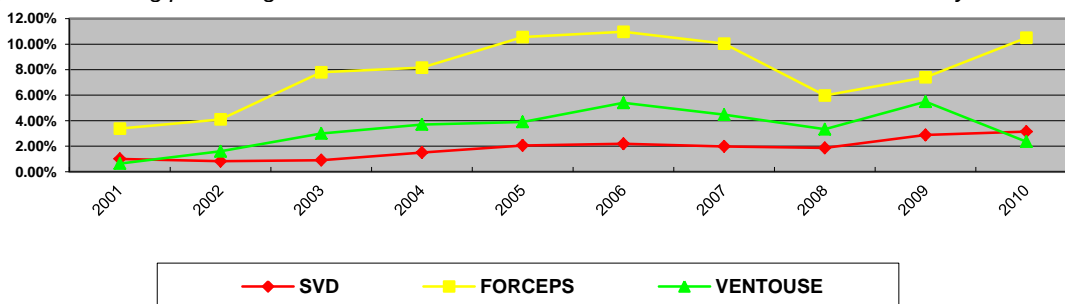


Figure 3: The distribution of mode of delivery in women with OASIS



The majority of patients who sustained OASIS had SVD (Figure 3), with a significant rise in the percentage of women who had SVD and sustained an OASIS from 1.0% in 2001 to 3.14% in 2010. As expected ventouse delivery was least commonly associated with OASIS with overall falling number of ventouse deliveries. However the percentage of women who sustained OASIS with ventouse delivery has increased (0.6 to 2.36%). There has been a steady increase in percentage (3.4% to 10.5%) of forceps delivery associated with OASIS over the last decade (Figure 4).

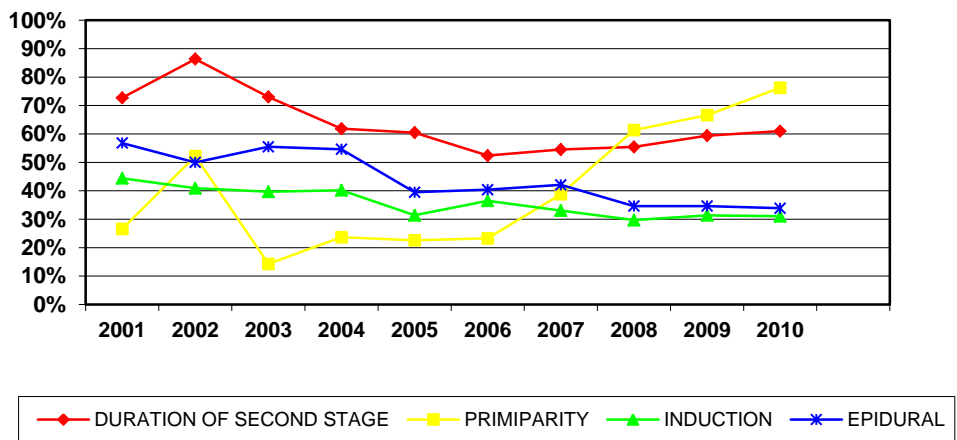
Figure 4: Showing percentages of OASIS in women with different mode of deliveries over 10 years



**Risk Factors (Figure 5)**

Rate of episiotomy, with or without instrumental delivery, varied (between 34% - 47%). Birth weight (> 4 kg) however has dropped from 29% to 23 suggesting this is unlikely to be a contributing factor to the increasing OASIS rates. There was also a decline in the percentage of women who were induced (44% to 31%), who had prolonged second stage of labour (> 1 hour) and those who had epidural analgesia during labour and sustained OASIS(53% to 34% ), again suggesting these risk factors are the unlikely cause for the increasing rates. The number of women who had shoulder dystocia and third degree tear had increased from 0% on 2001 to 5.0% in 2010. Over the last 10 years there has been a steady rise in the percentage of primiparous women who sustained third degree tear.

Figure 5: Showing trend in risk factors involved in OASIS over 10 years



**Interpretation of results**

The number of total births is increasing but the rate of SVD has decreased. Despite this the OASIS rate has increased. The rate of forceps deliveries have marginally increased but do not appear to be the sole reason for this rise. There has been a 3-fold increase in the OASIS rate during SVD's.

Some of the known risk factors like duration of second stage of labour, use of epidural, episiotomy, induction of labour, birth weight >4 kg, do not appear to be the cause of the rise in OASIS in our population.

**Concluding message**

There continues to be a rise in OASIS rates in vaginal deliveries, with a marked increase in the OASIS rates in the SVD patients.

This rise is at least partly due to increase awareness and training in OASIS resulting in increasing recognition of such tears; however is an actual increase in the number of such tears at vaginal deliveries. Midwifery and Obstetric practices have certainly changed over the last decade and are likely to play a significant role in this rise.

Awareness of the risk factors does not always help to predict which women will sustain a sphincter tear and tears occur in women without risk factors.

<b>Specify source of funding or grant</b>	<b>NA</b>
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<b>What were the subjects in the study?</b>	<b>NONE</b>