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Margie Polden Memorial Lecture: The perineal clinic – the management of women following obstetric anal sphincter injury

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Abstract

Obstetric anal sphincter injury (OASIS) is diagnosed after vaginal childbirth in 2–10% of women. Despite there being multiple recognized risk factors, there is no reliable method to either predict or prevent OASIS. An OASIS is a tear involving the anal sphincter complex, and is the leading cause of faecal incontinence (FI) in women. Diagnosis at the time of delivery, followed by immediate repair in theatre by experienced surgeons, are key to preventing the symptoms of FI in the long-term. Obstetric anal sphincter injury is also associated with perineal pain, sexual dysfunction and psychological sequelae, all of which may have a significant impact on women's quality of life, including the ability to bond with their new-born baby. Liverpool Women's Hospital has a dedicated perineal clinic that follows up women who have suffered an OASIS. The aim of this paper is to outline the clinic's approach to patient care and the management of the problems faced by these women, including the mode of delivery in any future pregnancy.

Keywords: management, obstetric anal sphincter injury, perineal clinic.

Introduction

What is obstetric anal sphincter injury?

An obstetric anal sphincter injury (OASIS) is a perineal tear that extends into the anal sphincters. These wounds include third- and fourth-degree tears. The classification of perineal trauma is outlined in Table 1.

How common is obstetric anal sphincter injury?

Up to 80% of women will sustain some form of perineal tear following their first vaginal childbirth, but OASIS is less common. The reported rate of OASIS in the UK units varies from 1% to 5%, and appears to be on the increase. A recent study by the Royal College of Obstetricians (RCOG) showed that the overall rate of third-degree tears tripled in the UK between 2010 and 2014, rising from 1.8% to 5.9% (Edozien *et al.* 2014). The reason for this increase is not clear, but increased recognition of OASIS may have played a part.

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Because of this increase, the RCOG introduced a care bundle that is being piloted at sites throughout the UK. This bundle promotes the use on a “hands-on” technique for delivery: the foetal head is controlled while the perineum is protected. These steps were shown to reduce the rates of OASIS when successfully implemented in Oslo, Norway (Laine *et al.* 2012).

Table 1. Classification of perineal trauma: (EAS) external anal sphincter; and (IAS) internal anal sphincter (Fowler 2009)

Type of tear	Definition
First-degree	Injury to the perineal skin
Second-degree	Injury to the perineum involving the perineal muscles, but not involving the anal sphincter
Third-degree	Injury to the perineum involving the anal sphincter complex:
(3A)	< 50% of the EAS thickness torn
(3B)	> 50% of the EAS thickness torn
(3C)	both the EAS and the IAS torn
Fourth-degree	Injury to perineum involving the anal sphincter complex (both the EAS and the IAS) and anal epithelium

Risk factors for obstetric anal sphincter injury

There are multiple risk factors for OASIS, including a first vaginal delivery, a large baby, Asian ethnicity and assisted vaginal delivery, particularly when this involves forceps. Despite these risk factors being well established, attempts to develop a risk-factor model to predict OASIS have failed (Williams *et al.* 2005).

More detail on risk factors for OASIS can be found in a previous publication in this journal by the present author, "Obstetric anal sphincter injury" (Fowler 2009), which also describes the initial management of the condition at the time of delivery. The remainder of the present article will focus on the consequences of OASIS and the role of the perineal clinic.

Consequences of obstetric anal sphincter injury

Childbirth has a significant impact on the physical and psychological well-being of women, with up to 91% reporting at least one new symptom 8 weeks after delivery (Glazener *et al.* 1998). Women with a recognized OASIS have increased morbidity compared to those with first- and second-degree tears.

Anal incontinence

It is recognized that OASIS is the commonest cause of anal incontinence. The International Continence Society defines anal incontinence as the involuntary loss of flatus or faeces that becomes a social or hygiene problem. It can be affected by many factors, such as stool consistency and volume, colonic transit, compliance of the rectal reservoir, and mental function.

The most important factor in maintaining continence is an anatomically normal anal sphincter complex and its intact neurological function. It was previously thought that neuropathic injury to the pelvic nerves and pudendal nerve was the leading cause of incontinence following childbirth. However, since the advent of endoanal ultrasound (EAUS), sphincter defects have been diagnosed in women who were previously diagnosed with a neurogenic cause for their faecal incontinence (FI) (Law *et al.* 1991).

Anal incontinence affects 4–6% of women for up to 12 months following delivery, and 40 000 mothers are affected in the UK each year (Glazener 1997; MacArthur *et al.* 1997; Glazener *et al.* 1998; Chaliha *et al.* 1999; Fernando *et al.* 2006a). However, in women with a clinically recognized OASIS, symptoms are more common,

with FI, faecal urgency, dyspareunia and perineal pain reported in 30–50%, and the symptoms may persist for many years (Haadem *et al.* 1988; Crawford *et al.* 1993; Sultan *et al.* 1994).

Anal incontinence has been described as the "unvoiced symptom" since affected individuals avoid seeking medical advice (Leigh & Turnberg 1982). Many do not seek medical attention because of embarrassment and the taboo nature of the problem. Some women are discouraged from discussing their symptoms because they feel that these are a normal consequence of childbirth (Haadem *et al.* 1988; Walsh *et al.* 1996). It is essential that health professionals looking after women ask about the symptoms of FI, especially in the postpartum period. Sadly, the true incidence of anal incontinence and its impact on women following childbirth are currently unknown.

Perineal pain

Perineal pain can lead to significant morbidity following vaginal delivery. It can interfere with a women's ability to bond with her new-born baby. If severe, it may lead to problems with voiding of urine and defecation.

There is a paucity of research assessing perineal pain and discomfort in women following OASIS compared with those without the condition. In one randomized control trial (RCT), women with OASIS reported perineal pain more frequently and of a higher degree than those without it (Williams *et al.* 2006). These results were similar at 1–10 days and 3 months after childbirth, and are also shown in other observational studies, with increased perineal pain at 3 months following OASIS compared with episiotomy, and first- or second-degree tears (Macarthur & Macarthur 2004; Andrews *et al.* 2008).

Sexual dysfunction

Women with OASIS report higher rates of dyspareunia (i.e. discomfort with intercourse) compared with women without the condition, with incidences of up to 50% being reported (Klein *et al.* 1994; Signorello *et al.* 2001; Wagenius & Laurin 2003; Mous *et al.* 2008). In addition, there is a delay in starting intercourse following OASIS (Klein *et al.* 1994; Brubaker *et al.* 2008; Rådestad *et al.* 2008). At 1 year after childbirth, women with OASIS are less sexually active than women without it (van Brummen *et al.* 2006). In one study, dyspareunia rates were still significantly higher in women with OASIS 15 years after delivery (Mous *et al.* 2008). There is no doubt that OASIS has a considerable impact on

women's psychosexual health, with many avoiding sexual intercourse for many years.

Anal incontinence during sexual intercourse is reported by 13–17% of women with OASIS (Faltin *et al.* 2001; Mous *et al.* 2008) compared with 1% of control subjects.

Other problems

Abscess formation, wound breakdown and rectovaginal fistula are serious but fortunately rare consequences of anorectal injury. It is thought that most rectovaginal fistulae following sphincter repair are caused by a failure to recognize the true extent of the initial injury, which leads to wound breakdown (Giebel *et al.* 1993). Wound breakdown rates of 10% have previously been reported after sphincter repair (Venkatesh *et al.* 1989). However, the recent RCTs assessing the method of repair failed to report any cases of wound breakdown (Fitzpatrick *et al.* 2000; Fernando *et al.* 2006b; Williams *et al.* 2006). This may reflect the routine use of broad-spectrum antibiotics in protocols for sphincter repair (RCOG 2001).

In clinical practice, women should be examined by the community midwife following discharge from hospital in order to check how the wound is healing. While reports of flatus incontinence are common following OASIS, if a women reports passing flatus vaginally, they should be examined by an experienced clinician for a rectovaginal fistula or wound breakdown.

Follow-up of women after obstetric anal sphincter injury

The perineal clinic

In 2001, the RCOG first published evidence-based guidance on the management of women following OASIS (RCOG 2001). Last updated 2 years ago (RCOG 2015), this guidance highlights the need to follow up these women. The RCOG guideline gives broad recommendations about follow-up, namely:

- Women should be advised that physiotherapy following repair of OASIS could be beneficial.
- Women who have undergone OASIS repair should be reviewed at a convenient time (usually 6–12 weeks postpartum). Where possible, this review should be by clinicians with a special interest in OASIS.
- If a woman is experiencing incontinence or pain at follow-up, referral to a specialist gynaecologist or colorectal surgeon should be considered.

The perineal clinic at Liverpool Women's Hospital (LWH) was one of the first to be set up in the UK, and began seeing women in 1999 (Fowler *et al.* 2009). A perineal clinic provides a setting for debriefing, and the delivery of consistent and accurate information by clinicians with a special interest in OASIS. The LWH clinic is run by a consultant urogynaecologist, a urogynaecology link midwife with direct access to specialist women's health physiotherapists, psychosexual counsellors and colorectal surgeons. All women who sustain an OASIS during delivery at LWH are invited to attend the clinic.

While the RCOG guidelines only suggest anorectal testing (i.e. EAUS and anal manometry) in symptomatic women, all women at LWH are offered this option. The results are used to counsel women about the mode of any subsequent deliveries they may have.

Review at 6 weeks postpartum

At 6–8 weeks postpartum, women are reviewed by the urogynaecology link midwife. The majority will have met her while on the postnatal ward, since she reviews all patients before they are discharged home, if possible. It is important that the women are warned of the possible sequelae of OASIS. They may not be symptomatic at the time of the review, but should be advised about how to obtain advice if symptoms develop later. All women are given written information about OASIS, what to expect during their recovery, and when and how to contact the hospital if they have problems.

At the first appointment, the details of the delivery and OASIS are discussed. A history of pelvic floor symptoms is obtained that focuses on direct and specific questions about the symptoms of FI, particularly faecal urgency, and the associated symptoms of dyspareunia and perineal pain. The use of a validated patient-completed quality of life questionnaire is useful in urogynaecology. The LWH clinic employs the electronic Personal Assessment Questionnaire – Pelvic Floor (ePAQ-PF; ePAQ Systems Ltd, Hathersage, Derbyshire, UK), which is computer-based. A voucher is sent to the patient's home prior to her appointment allows her to complete this at home before the appointment.

If necessary, women are referred to their obstetrician for a debriefing about and review of their labour and delivery.

All patients undergo an assessment of their pelvic floor strength and are advised about pelvic floor muscle exercises (PFMEs). Those with

poor pelvic floor tone or with symptoms of urinary incontinence are referred for physiotherapy assessment.

Women with perineal problems or FI are seen by the consultant urogynaecologist.

Review at 6 months postpartum

All women are reviewed by the consultant urogynaecologist 6 months postpartum. The details of the OASIS are recorded, and an assessment of the symptoms of anal incontinence [i.e. faecal urgency, incontinence of faeces (solid or liquid), and incontinence of flatus] should be made. When obtaining a history, it is important to remember that patients with transient incontinence following a third-degree tear are more likely to have worsening FI symptoms. Routine use of one of the validated FI questionnaires is useful, and the perineal clinic employs the ePAQ-PF as a matter of routine.

All women at LWH are offered an appointment for anorectal testing and a review of the results. The tests include EAUS, to visualize the repaired anal sphincters, and manometry, to assess anorectal function. The results help to counsel women about the mode of delivery in any future pregnancy.

Women with mild symptoms of FI may benefit from dietary manipulation to regulate bowel function, and advice about avoiding gas-producing foods. Diarrhoea or incontinence of loose stool is the common distressing symptom. Medications can be used to make the stool firmer; these use constipating agents such as loperamide or codeine phosphate, or bulking agents. Those patients who do not respond or have more-severe symptoms are referred for review by the colorectal surgeon. Further management of the symptoms of FI will depend on the results of EAUS and manometry. In the majority of cases, this management is conservative, combining loperamide for loose stools, biofeedback, anorectal irrigation and constipating agents, if necessary. In the past, symptomatic women with a sphincter defect were offered a secondary sphincter repair; it is more likely now that these patients will undergo a trial of sacral nerve stimulation if conservative measures fail.

The RCOG supports the involvement of a physiotherapist to teach PFMEs in the postpartum management of women with OASIS. However, the evidence for the efficacy of PFMEs following OASIS is sparse. One study reported lower rates of anal incontinence at 1 year in women who were taught PFMEs by a physiotherapist following a third-degree tear, but this investigation lacked a control group (Sander *et al.* 1999).

Future pregnancy and mode of subsequent delivery

A plan for the management of subsequent pregnancies and the mode of delivery should be part of the follow-up of women who have sustained an OASIS. There are no Cochrane Reviews or RCTs to suggest what the best method of delivery following OASIS might be, and as such, opinions and practice will differ between clinicians.

To help women make an informed decision about the mode of any future delivery, they need to understand the risks of subsequent vaginal delivery. Any advice should include the risks of a repeat OASIS and the development of FI symptoms. A recent study by the RCOG reported a five to seven times increase in the risk of repeat OASIS in subsequent vaginal deliveries in women with previous OASIS compared to those without the condition (Edozien *et al.* 2014). Recurrent OASIS is an infrequent event since it is known that the majority of women deliver by Caesarean section in their subsequent pregnancies. Therefore, data on anal incontinence symptoms following recurrent OASIS are lacking.

There are recognized risk factors for OASIS; however, attempts to develop an antenatal risk scoring system have so far been unsuccessful (Williams *et al.* 2005). Therefore, there is no mechanism to predict those who are at an increased risk. In addition, although there is some evidence that the hands-on-the-perineum delivery technique may reduce the risk of OASIS, there is no action during vaginal delivery that is proven to prevent it.

In terms of the risk of developing FI, studies assessing vaginal delivery following a third-degree tear have shown worsening symptoms in 17–24% of women (Bek & Laurberg 1992; Tetzschner *et al.* 1996; Poen *et al.* 1997; Fynes *et al.* 1998). This is particularly true of women who have experienced transient incontinence after the index delivery (Bek & Laurberg 1992).

The RCOG guidelines recommend that all women who have sustained an OASIS in a previous pregnancy should be counselled regarding the risk of developing anal incontinence or worsening symptoms after a subsequent vaginal delivery. Those who are symptomatic or who have abnormal EAUS or manometry should be offered the option of an elective Caesarean section. If an individual is asymptomatic, there is no clear evidence for the best mode of delivery.

Unsurprisingly, the patient's own experience of labour or other obstetric-related factors will

influence her preference for the mode of delivery. Research has shown that those who have had a difficult or traumatic delivery may request elective Caesarean section (Williams *et al.* 2005). Certainly, in their practice at LWH, the present author and her colleagues find that a large proportion of women have often made a decision about the mode of delivery before attending their 6-month follow-up appointment.

Practice at LWH is to use the results of the EAUS and manometry to help counsel women about the risks of a further vaginal delivery. Patients who have symptoms of FI should be advised to consider an elective Caesarean section to avoid any further compromise to the sphincter function, which may lead to worsening FI symptoms. Endoanal ultrasound assesses whether the internal and external sphincters are repaired and intact. In the RCTs of repair techniques, a residual external sphincter defect was found in up to 30% of women following an operation by an experienced surgeon (Fitzpatrick *et al.* 2000; Fernando *et al.* 2006b; Williams *et al.* 2006). Manometry is used to assess sphincter function by measuring resting and squeeze pressures.

Women who are asymptomatic, and have a normal sphincter anatomy and function are provided with the evidence about the risks of further OASIS and the development of FI to aid their decision-making. Those who are asymptomatic, but have a residual sphincter defect and/or impaired manometry are counselled to consider elective Caesarean section because of the increased risk of developing FI symptoms. One study has shown that women with a normal sphincter and function are not at increased risk of FI symptoms at 3-month follow-up (Scheer *et al.* 2009).

Summary

Obstetric anal sphincter injury is the leading cause of FI in women. Individuals who have been affected are at a high risk of psychological sequelae, perineal pain and sexual dysfunction. A perineal clinic dedicated to the follow-up of women following OASIS can address these symptoms, and experienced staff can provide a detailed assessment and counselling about the mode of future delivery.

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