

RECURRENT OBSTETRIC ANAL SPHINCTER INJURY AND THE RISK OF LONG-TERM ANAL INCONTINENCE

Hypothesis / aims of study

Obstetric anal sphincter injuries (OASIS) are well-known complications to vaginal deliveries and causes anal incontinence in half of the women affected. After a delivery with OASIS, women are concerned about the risk of recurrent OASIS. We have previously found, that the incidence of recurrent OASIS is 7.1% (95%CI 6.5-7.7%) in the Danish population (1). However, it is uncertain whether recurrent OASIS affects the risk of long-term anal incontinence, since most studies are small, and thus, underpowered to find a significant difference. The aim of the present study was to assess whether recurrent OASIS increases the risk of long-term anal- and fecal incontinence compared with women with a second vaginal delivery without recurrent OASIS.

Study design, materials and methods

We performed a national postal questionnaire study in women with OASIS in the first delivery and one subsequent vaginal delivery in Denmark 1997-2010. The questionnaires were sent in 2010-2011 to allow a minimum of five-year follow-up after the second delivery. We performed uni- and multivariable analyses to evaluate the primary outcomes: anal- and fecal incontinence at long-term. Secondary outcomes were whether anal incontinence affected quality of life and other anal incontinence-related outcomes. Multivariable analyses were adjusted for age at the time of answering the questionnaire, birth weight of first and second child and years since first and second delivery.

Results

In total, 1,490 women with a second vaginal delivery after a first delivery with OASIS could be included for final analyses. The overall response rate was 73.2%. Recurrent OASIS occurred in 106 (7.1%), 94 (88.7%) had a third degree recurrent OASIS and 12 (11.3%) had a fourth degree recurrent OASIS. More patients with recurrent OASIS reported anal incontinence at long-term (n=53, 50.0%) than patients without recurrent OASIS (n=525, 37.9%). Fecal incontinence was present in 23.6% (n=25) of women with recurrent OASIS and in 13.2% (n=182) of women without recurrent OASIS. After adjustment, the risk of anal incontinence was still increased in patients with recurrent OASIS (adjusted OR 1.57, 95%CI 1.04-2.38, $P = 0.03$). Also, the risk of fecal incontinence was increased in women with recurrent OASIS (adjusted OR 1.93, 95%CI 1.17-3.18, $P = 0.01$). More women with recurrent OASIS reported affected quality of life due to anal incontinence (34.9%, n=37) compared with women without recurrent OASIS (24.2%, n=335) (adjusted OR 1.61, 95%CI 1.04-2.47, $P = 0.03$).

Interpretation of results

In this national questionnaire study, we found that women with recurrent OASIS have an increased risk of both anal- and fecal incontinence and that this affects their quality of life. It seems logical that further damage to the anal sphincter at a recurrent OASIS affects the risk of symptoms. In Denmark, women with anal incontinence after a first delivery with OASIS are recommended an elective cesarean in second delivery. However, as previously shown, an elective cesarean is not necessarily protective against long-term anal incontinence (2).

Concluding message

When deciding on mode of second delivery after a first delivery with OASIS, women should be informed about the risk of recurrence and that this increases the risk of long-term anal- and fecal incontinence. These increased risks of long-term anal- and fecal incontinence should be weighted against the maternal and fetal risks in elective cesarean delivery.

References

1. Jangö H, Langhoff-Roos J, Rosthøj S, Sakse A. Risk factors of recurrent anal sphincter ruptures: a population-based cohort study. *BJOG An Int J Obstet Gynaecol.* 2012 Dec;119(13):1640–7.
2. Jangö H, Langhoff-Roos J, Rosthøj S, Sakse A. Mode of Delivery after Obstetric Anal Sphincter Injury and the Risk of Long-term Anal Incontinence. *Am J Obstet Gynecol.* 2015 Dec 22;

Disclosures

Funding: Aase and Ejnar Danielsens Foundation. **Clinical Trial:** Yes **Registration Number:** The Danish National Board of Health, J.nr. 7-505-29-1562 **RCT:** No **Subjects:** HUMAN **Ethics not Req'd:** It did only involve postal questionnaires. The Danish National Board of Health approved the study. **Helsinki:** Yes **Informed Consent:** Yes