**Introduction**

Obstetric anal sphincter injuries (OASIS) after vaginal delivery can affect a woman's physical and mental health, as well as future pregnancies. Up to 57% of women with OASIS may have faecal and flatal incontinence persisting at long-term follow-up, and further worsens after subsequent delivery in around 20% of cases. Among the various risk factors of OASIS, use of forceps delivery is the most significant one, with an OR of 5.611 even if routinely combined with mediolateral episiotomy, and it has been found to associate with a higher risk then ventouse. There was lack of published data in Chinese population; the reported figure was increased from 0.03% to 0.08% in period of year 2004 to year 2009 in Hong Kong territory wide audit conducted by Hong Kong College of Obstetricians and Gynaecologists. However, the report figure is very low when compared with other worldwide literatures. Besides, there was no report on studying the risk of OASIS specifically for non-rotational outlet forceps. Whether the latter is associated with a less severe perineal trauma than mid-level and rotational forceps is not known.

**Objectives**

To determine the incidence and risk factors of OASIS in Chinese women.

**Methodology**

Design - This is a retrospective cohort study. Control group was selected randomly. Univariate and multivariate logistic regression analysis was performed to evaluate the influence of potential risk factors on OASIS. Setting – A tertiary referral hospital in Hong Kong Participants – Women whom had vaginal delivery in Department of Obstetrics and Gynaecology, Queen Elizabeth Hospital between period 1st January 2011 to 30th June 2014. Main outcome measurements – The primary outcome measures is the incidence of OASIS in women having vaginal delivery. Various risk factors for OASIS and their relationships were analyzed by logistic regression
Result
There were a total of 49 women suffering from OASIS after vaginal delivery from year 2011 to June 2014. The overall incidence is 0.32%. Of these 49 cases, 3 (6.1%), 27 (55.1%), 9 (18.4%) and 10 (20.4%) had 3a, 3b, 3c and 4th degree OASIS respectively. All women were delivered at term (>37+0 weeks of gestation). There was no significant difference among the demographic data between year 2011 to 2014. There was also no difference on the demographic data and baby outcomes between the OASIS group and control group except in the volume of blood loss volume (p<0.01). Women suffered from OASIS had more blood loss. Of 15446 women delivered vaginally, 49 had OASIS. The percentage of OASIS increased over time from 2011 to 2014. An univariate analysis of these 49 cases and 438 control subjects showed that Forceps Delivery, Prolong second stage of labour increased the risk for OASIS. In multivariate regression models, only forceps delivery proved to be independent risk factor(odds ratio = 6.28 (95% CI= 2.32-17.04), p <0.01).