Objective: To investigate the sensitivity, specificity, positive and negative predictive values of SIS in diagnosing uterine mass in subfertile women.

Methods: This is a prospective diagnostic test. Eligible patients were subfertile women having indications for laparoscopy for tubal factors, ovarian tumors, endometrioma, and uterine cavity mass. SIS was performed within a month prior to the operating day and SIS report was blinded to surgeons. Gold standard for diagnosis of abnormal uterine mass was histopathology or hysteroscopy.

Results: From 7/2015 to 3/2016, a total of 433 patients was enrolled to the study. The prevalence of patients with uterine cavity mass was 49.6%, in which, 45.7% had endometrial polyp, and 3.9% had submucous fibroid. The sensitivity and specificity of SIS in diagnosing endometrial polyp were 87% and 85%, and submucous fibroid were 78% and 98%. Multivariate regression analysis showed that size of endometrial polyp was an independent factor that predicted the accuracy of SIS in diagnosing uterine cavity mass.

Conclusions: SIS has a good value in diagnosing uterine cavity mass with the sensitivity and specificity of 87% and 85% for diagnosing endometrial polyp and 78% and 98% for submucous fibroid. Obtaining SIS prior to hysteroscopy will provide better information for laparoscopic surgeons to establish a tackling plan and for clinicians to do proper pre-operative counseling to patients about the management that may happen during the operation.

Keywords: Uterine cavity mass, subfertility, saline infusion sonography (SIS), endometrial polyp, submucous fibroid