Objective
To investigate the performance of transvaginal hysterosalpingo-contrast sonography (HyCoSy) in assessing tubal patency in women with endometriosis.

Material and methods
This study was based on the retrospective analysis of a prospectively collected database of patients with endometriosis who underwent HyCoSy and subsequently had tubal patency assessment during laparoscopy. Patients had histological diagnosis of endometriosis. At the time of ultrasonography, a standardized assessment of the presence of deep endometriosis and ovarian endometriomas was performed.
Exclusion criteria for the study were: ultrasonographic diagnosis of hydrosalpinx, previous uni or bilateral adnexectomy or salpingectomy, major uterine malformations.
The intensity of pain perceived during HyCoSy was assessed by visual analogue scale (VAS). The findings of HyCoSy were compared with surgical assessment of tubal patency. The McNemar’s test was used to compare the diagnostic performance of the two exams.

Results
273 women were included in the study. HyCoSy showed bilateral tubal patency in 197 patients, unilateral tubal patency in 24 patients and bilateral tubal occlusion in 52 patients.
In 18% of the patients, adhesiolysis was required during laparoscopy before assessing tubal patency. The mean time to perform HyCoSy was 15.6 minutes.
SSG had sensitivity of 93.2% and specificity of 99.2% for diagnosing tubal patency. There was no significant difference in the performance of HyCoSy and laparoscopy in assessing tubal patency (McNemar’s test; p= 0.634).
These findings were confirmed when the analysis was restricted to patients with ovarian endometriomas (p =0.247).
Overall, 156 patients (57.1%) did not complain any pain during HyCoSy; mild pain (VAS score < 3) was reported by 62 patients (22.7%); 38 patients (13.9%) complained moderate pain (VAS score 4-7) and 17 patients (6.2%) had severe pain (VAS > 7).

Conclusions
In this large cohort of unselected women with endometriosis, HyCoSy showed good performance in the assessment of tubal patency.