Objective:
To provide a better understanding and guidance for the treatment of heterotopic Caesarean scar pregnancy (HCSP).

Methods:
Twenty women with HCSP following in vitro fertilization-embryo transfer (IVF-ET) in our centre between January 2013 and December 2017 were retrospectively identified. Among them, 19 cases were diagnosed by first-trimester transvaginal sonography (TVS), while the other case was missed. According to whether or not embryonic/foetal cardiac activity was present at the initial diagnosis or later in the Caesarean scar pregnancy (CSP), the diagnosed 19 cases were divided into group A (with positive embryonic/foetal cardiac activity, n=10) and group B (with no cardiac activity, n=9). The characteristics, diagnoses and clinical outcomes were compared between the two groups.

Results:
The diagnostic accuracy of TVS for HCSP was 95.0%. The gestational age ranged from 5+2 to 9+1 w in group A at diagnosis and ranged from 5+2 to 9+1 w in group B. In group A, 5 patients received successful surgical or medical treatment, and 5 cases were treated expectantly. The CSP continued to develop in 3 cases, and delivery ultimately occurred in 2 cases. The live birth rate of all IUPs was 30% (3/10); in group B, 77.8% of the patients (7/9) received expectant treatment, among whom 6 had CSPs that disappeared or were excised during CD and 1 had a CSP that was terminated. Surgical treatment was carried out in 2 cases. The live birth rate of all IUPs was 55.6% (5/9). The myometrial thickness was lower in patients receiving surgical treatment than in those receiving expectant treatment (3.5±1.0 vs. 5.2±1.3 mm, p = 0.011).

Conclusions:
TVS has high accuracy for diagnosing HCSP during the first trimester. Expectant management may be a reasonable option for CSP with no embryonic/foetal cardiac activity in view of the low occurrence of severe complications, and this treatment may also be considered for patients with live CSPs, which may allow the possibility of delivering two live babies but with a high risk of placenta accreta/increta.