

# Ultrasound diagnosis of endometrial polyps in pregnancy

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Endometrial polyps are benign focal overgrowths of uterine mucosa. They are a recognized cause abnormal vaginal bleeding and have also been associated with subfertility and early pregnancy loss<sup>1,2</sup>. The ultrasound features of benign polyps in non-pregnant women have been well-documented<sup>3</sup>, but so far there have been no reports of endometrial polyps identified on ultrasound scans during early pregnancy.

In this case series we describe ten cases of endometrial polyps diagnosed in the first trimester of pregnancy and followed-up during pregnancy. (Table 1). In nine women (Cases 1-9), a solid hyperechoic structure was seen protruding into the uterine cavity adjacent to the gestational sac at the first scan (Fig.1). In the remaining case (Case

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10), the polyp was first diagnosed at a follow up scan at 12 weeks'. It was located below the placenta with a well-defined feeder vessel. In nine cases, the polyps had typical appearances of benign lesions. One polyp (Case 3) appeared as a cystic structure adjacent to the gestational sac which was initially suspicious of a complete hydatidiform mole (Fig. 2). The serum  $\beta$ -hCG level at 13 weeks' was 179233 IU/L or 2.5 MoM. Maternal serum  $\beta$ -hCG levels decreased between 13 and 20 weeks' whereas the focal cystic structure remained of similar size at the periphery of the placenta. Blood supply to the lesion decreased after 13 weeks' and the final diagnosis of endometrial polyp was made. In two cases (Cases 3 and 10), the polyps were identified at birth attached to the placental membranes and their benign nature was confirmed on histopathological examination.

We also compared the size of endometrial polyps in pregnancy to the findings obtained in a cohort of randomly selected 41 premenopausal non-pregnant women. The median diameter of polyps detected in pregnancy was 14.7mm (IQR 32-38) which was significantly larger compared to 7.3mm (IQR 5.5-10.4) in non-pregnant women (Z-score:-3.440; p=0.0006).

Our case series shows that some endometrial polyps could be detected on ultrasound examination during the first trimester of pregnancy. This is a novel observation and we have not found any previous reports in the literature describing ultrasound diagnosis of endometrial polyps in early pregnancy. Differential diagnosis of a focal lesion in the endometrial cavity during early pregnancy includes submucous uterine fibroids, focal adenomyosis, 'chorionic bump'<sup>4</sup>, multiple pregnancy combining a normal gestational sac with retained products of conception or a complete hydatidiform mole. The other possible rare diagnosis is mesenchymal dysplasia of the placenta.

We found that five of nine women in our series who wished to continue with their pregnancies had healthy babies at term. This finding supports the view that endometrial polyps may not be associated with impaired implantation and placentation and are not a major risk factor for early pregnancy failure or subsequent placental insufficiency<sup>5</sup>. Women should be advised that their pregnancies could develop normally despite the presence of the polyp and they should continue with their routine antenatal care. A follow up scan could be arranged once the pregnancy is completed to check for their presence and consider surgical removal.

## References

1. Pérez-Medina T, Bajo-Arenas J, Salazar F, Redondo T, Sanfrutos L, Alvarez P, Engels V. Endometrial polyps and their implication in the pregnancy rates of patients undergoing intrauterine insemination: a prospective, randomized study. *Hum Reprod* 2005;20(6):1632-5.
2. Afifi K, Anand S, Nallapeta S, Gelbaya TA. Management of endometrial polyps in subfertile women: a systematic review. *Eur J Obstet Gynecol Reprod Biol* 2010;151:117-21.
3. Wong M, Crnobrnja B, Liberale V, Dharmarajah K, Widschwendter M, Jurkovic D. The natural history of endometrial polyps. *Hum Reprod* 2017;32:340-45.
4. Sana Y, Appiah A, Davison A, Nicolaides KH, Johns J, Ross JA. Clinical significance of first-trimester chorionic bumps: a matched case-control study. *Ultrasound Obstet Gynecol*. 2013;42:585-9.
5. Check JH, Bostick-Smith CA, Choe JK, Amui J, Brasile D. Matched controlled study to evaluate the effect of endometrial polyps on pregnancy and implantation rates following in vitro fertilization-embryo transfer (IVF-ET). *Clin Exp Obstet Gynecol* 2011;38:206-8.

Figure legends:

Figure 1. Transvaginal scan at seven weeks' gestation showing an endometrial polyp concomitant with early pregnancy. The polyp appeared as a hyperechoic structure (star) which was compressing the gestational sac (GS).

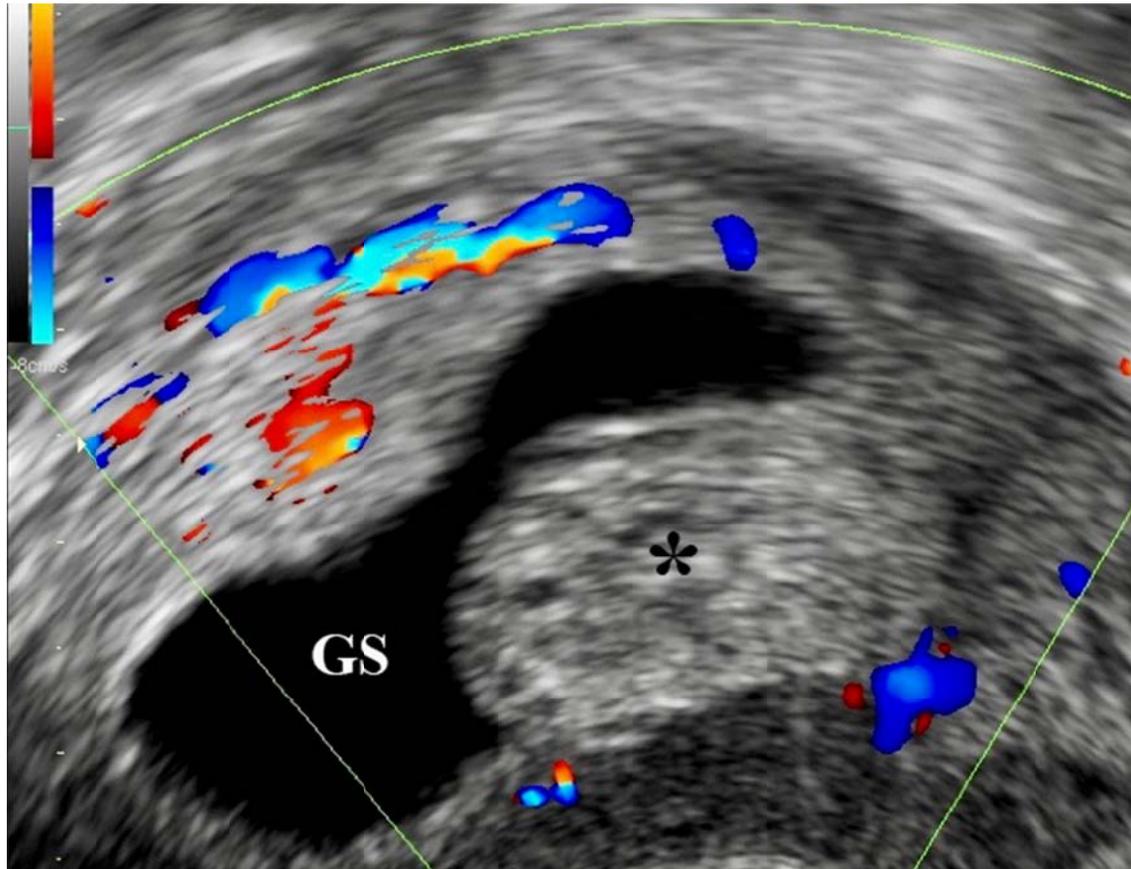


Figure 2. Transabdominal ultrasound scan showing a cystic structure (star) adjacent to the placenta (P) at 13 weeks' gestation. On colour Doppler the lesion was poorly vascularised in comparison to the placenta.

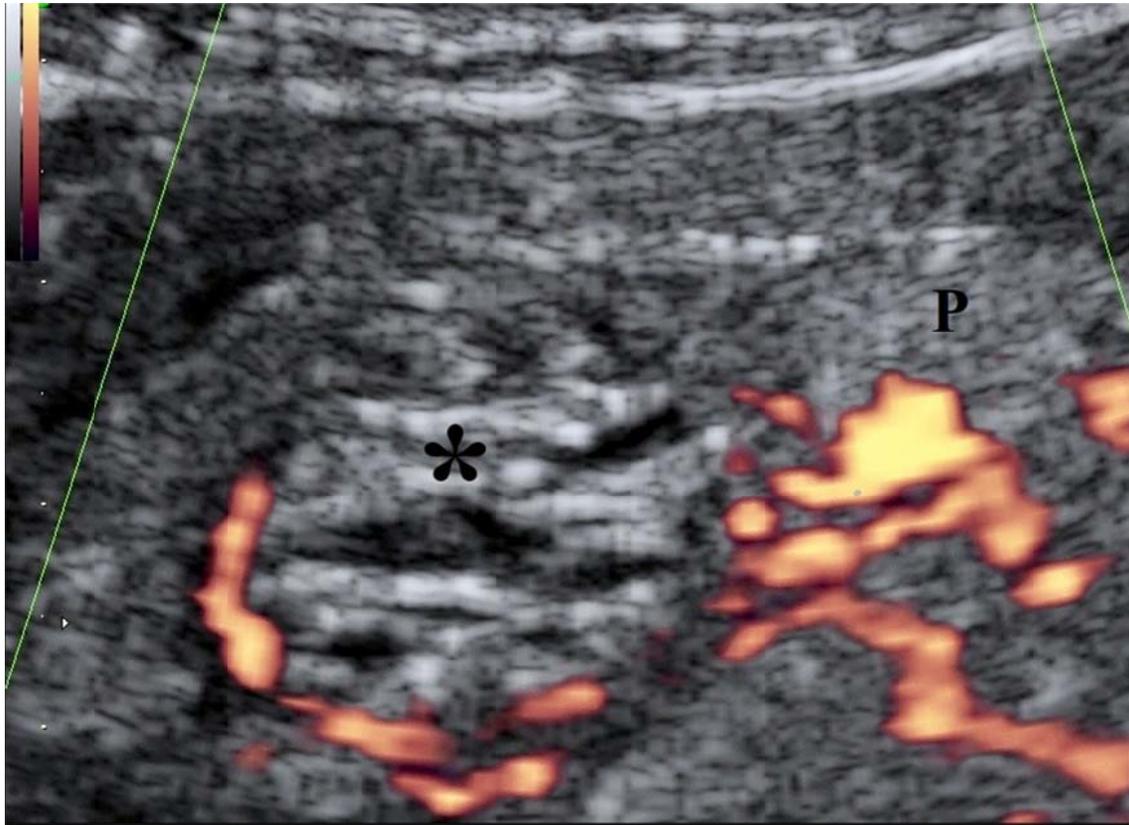


Table 1: Demographic data, size of polyps and pregnancy outcomes in women diagnosed with endometrial polyps in pregnancy.

Case	Age	GA (weeks)	Indication for scan	Pre- pregnancy polyp	Size (mm)	Outcome of pregnancy
1	44	5	Bleeding	Yes	19x7x6	Miscarriage
2	30	6	Bleeding	No	20x20x13	Miscarriage
3	33	6	Bleeding	No	39x35x28	Term LB
4	40	6	Dating	Yes	36x29x15	STOP
5	37	6	Dating	No	16x14x5	Miscarriage
6	34	7	Dating	No	10x7x6	Term LB

7	37	7	Dating	Yes	28x18x14	Miscarriage
8	34	8	Dating	Yes	22x19x14	Term LB
9	27	10	Dating	Yes	11x9x6	Term LB
10	37	12	Bleeding	Yes	18x7x7	Term LB

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GA= gestational age; STOP= suction termination of pregnancy; LB= live-birth.