CASE REPORTS

MR Imaging of a Placental Polyp

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A case of a placental polyp was studied by MR imaging. T_1-weighted images of MRI showed an intrauterine mass of mixed intensity, which was hyperintense on T_2-weighted images. But its figure was obscured by the sorrounding massive hematoma. After administration of Gd-DTPA, the polyp was markedly enhanced and its polypoid figure was clearly visualized in the hematoma. Flow void was detected at the neck of the polyp. MR images, especially contrast enhanced MR images, are useful to visualize a placental polyp with intrauterine hematoma and to differntiate a placental polyp from other entities.

INTRODUCTION

A placental polyp is an intrauterine polypoid mass arises from retained placental tissue after delivery or absorption. It causes massive genital bleeding in late postpartum period[1),2)]. To our knowledge, only two reports of three cases have described MR imaging findings of placental polyps[3),4)]. We report a case of a placental polyp with its MRI features.

CASE REPORT

A 29-year-old G_3 P_2 T_1 woman underwent ceaserian section at her 38 week's gestation. She had a history of prior ceasarean section two years ago. At surgery, severe bleeding occured from the anterior wall of the uterus, and wide resection of myometrium was performed. On the 40th post partum day, she presented massive genital bleeding of sudden onset.

Laboratory data at admission showed anemia (hemoglobin=9.5 g/dl) and moderate elevation of urinary human chorionic gonadotropin (hCG) level (hCG=17.2 mIU/ml).

On pelvic sonograms, the uterine cavity was enlarged with a heterogenous hyperechoic lesion suggesting intrauterine hematoma. Extensive blood flow was detected in the anterior wall by color Doppler sonography (not shown).

Keywords placental polyp, magnetic resonance imaging, contrast media

Magnetic resonance examination was performed on the same day using a 1.5 T superconducting scanner (Signa Advantage, Yokogawa-GE Medical Systems). Spin echo T_1-wighted images (repetition time/echo time (TR/TE) 500/30) showed an intrauterine mass of low intensity surrounded by hyperintensity area (Fig. 1-(A)). On fast spin echo T_2-weighted images (TR/effective TE/echo train 4000/76/8), the mass showed hyperintensity (Fig. 1-

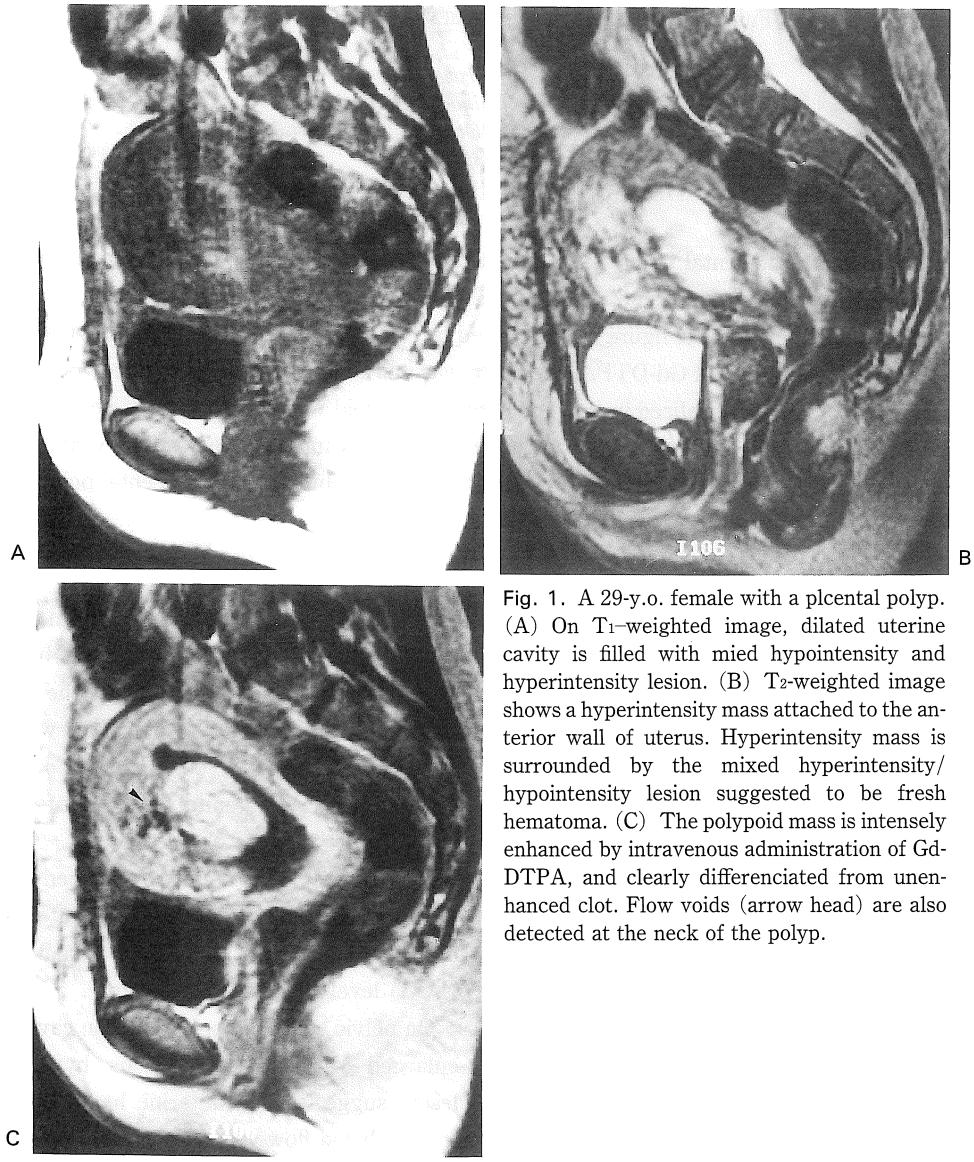

Fig. 1. A 29-y.o. female with a plcental polyp. (A) On T_1-weighted image, dilated uterine cavity is filled with mied hypointensity and hyperintensity lesion. (B) T_2-weighted image shows a hyperintensity mass attached to the anterior wall of uterus. Hyperintensity mass is surrounded by the mixed hyperintensity/hypointensity lesion suggested to be fresh hematoma. (C) The polypoid mass is intensely enhanced by intravenous administration of Gd-DTPA, and clearly differenciated from unenhanced clot. Flow voids (arrow head) are also detected at the neck of the polyp.

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(B)).

After intravenous administration of Gd-DTPA (0.1 mmol/kg), the mass was intensely enhanced. and its polypoid figure was clearly visualized. The unenhanced area of hypointensity around the mass was suggested to be an intrauterine hematoma. Flow void was detected at the neck of the polyp (Fig. 1-(C)).

Because of persisitent massive bleeding, a transabdominal simple hysterectomy was performed on the 44th post partum day. Macroscopic section of resected uterus showed a 4 cm brownish polypoid mass with hematoma attached to the anterior wall of the myometrium (Fig. 2). Histopathological examination revealed the presence of degenerative placental tissue in the polypoid tissue and decidua at the neck of the polyp. No placenta accreta was found in the anterior myometrium.

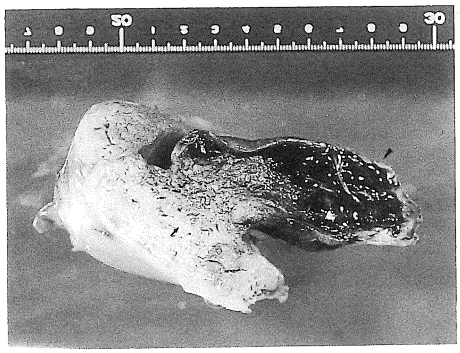

Fig. 2. Resected uterus shows a popypoid tissue growing from anterior wall (arrow). Blood clots stick to the top of the polyp (arrow head).

DISCUSSION

A placental polyp is a relatively rare entity that has been defined as pedunculated, placental or chorionic fragment retained for an indefinite period of time as the residua of an incomplete abortion or term pregnancy. The prominent etiologic factor is the tendency for it to occur in subsequent pregnancies in women who had experienced one or repeated manual removal of the placenta and/or repeated uterine curattage[1].

The complication is life-threatening bleeding and lower abdominal pain in late postpartum period, which often requires total hysterectomy[1]. Urinary or serum hCG levels shows mild elvation[2)~4)].

Sonographic findings are not specific. Yi et al. reported sonographic findings of a placental polyp as a mass of mainly solid with multiple, scattered, variably sized anechoic areas caused by hemorrhages[2]. In our case, transabdominal sonography revealed an intrauterine mass of heterogenous hyperechogenic area, but echogram could not distinguish the mass from the hematoma.

On the other hand, MR images, especially contrast enhanced MR images, clearly visualize the placental polyp with the intrauteine hematoma. MR features of placental polyps in previous two reports and our case are summarized on Table 1.

Table 1. Summary of MR Findings of Placental Polyp

Case Report	age	T_1WI	T_2WI	Gd-DTPA	flow void
1. Kurachi H. (3)	32y.o.	H	H	H	+
2. Kurachi H. (3)	26y.o.	H	H	H	+
3. Suzuki N. (4)	27y.o.	H/I	H/L	H	+
4. our case	29y.o.	I	H	H	+

H=hyperintensity, I=intermediate intensity, L=hypointensity

Kurachi et al. reported MR findings in two cases of placental polyps. In their two cases, T_1-weighted images showed hyperintensity area in the uterinecavity, which suggested blood fluid. On T_2-weighted images, placental polyps appeared hyperintense in the expanded uterine cavity[3].

Suzuki et al. reported another case of a placental polyp which appeared hypo to isointense on T_1-weighted images and mixed hypo to hyperintense on T_2-weighted images[4].

In our case, placental polyp itself showed intrauterine mass of low intensity on T_1-weighted images, and showed intense hyperintensity on T_2-weighted images. There were the areas of hyperintense on T_1-weighted images which appeared heterogenously hypo to hyperintense around the polyp on T_2-weighted images obscuring the polyp's figure. At the operation there were massive intrauterine hematomas around the polyp. We suggest that signal variations of placental polyps on T_1-weighted images and T_2-weighted images are due to the hemorrhagic lesions in and around the polyps.

Placental polyp of our case was enhanced homogenously by contrast media, and appeared more hyperintense than myometrium. The polypoid figure is clearly visualized in the unenhanced hematoma. Flow void from the myometrium can also be detected. This enhancement pattern is the same as the placental polyps in the previous two reports[3),4]. As Suzuki suggested, contrast enhanced T_1-weighted images are most useful to detect the placental polyp.

The differential diagnosis of placental polyp should include the intrauterine entities which appear hyperintense on T_2-weighted images. The points of MR imagings for differention are the intensive enhancement and the existence of intrauterine hematoma, but sometimes clinical information is also needed.

Endometrial polyp shows hyperintensity on T_2-weighted images, but will show mild enhancement with multiloculated structure inside by contrast media[5].

Degenerating submucosal leiomyoma and cellular leiomyoma may show hyperintensity on T_2-weighted images and may be enhanced intensively by the contrast media[6),7]. However, leiomyma with massive intrauterine hematoma is very rare unless it is delivered.

Retained placenta accereta is an abnormality of placentation in which the placental villi directly attaches to the uterine myometrium. Its clinical manifestation is massive genital bleedings in early postpartum period. Retained placenta accereta presents hyperintensity both on T_1-weighted and T_2-weighted images but is not enhanced by contrast images[8),9].

Choriocacinoma shows hyperintensity on T_2 weighted images and is enhanced intensively by the contrast media. These MRI features of choriocarcinoma are the same as those of placental polyps[10),11]. Choriocarcinoma can be differentiated clinically by extremely high urinary or serum hCG levels.

Mixed mullerian tumor is a rare disease that has polypoid growth from myometrium. Mixed mullerian tumor shows heterogeneous hyperintensity on T_2-weighted images and its enhancement pattern is variable. So its MR features may mimick those of the placental polyp. However, mixed mullerian tumors usually occur in post menoposal women and placental polyps are seen in women of reproductive age[12].

A placental polyp is a polypoid mass with massive intrauterine hematoma. MR images, contrast enhanced MR images in particular,

are useful to visualize a placental polyp with intrauterine hematoma and to differntiate it from other entities. In patients with postpartum massive genital bleeding, contrast enhanced MRI should be considered to reach the correct diagnosis.

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