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Management of a pregnant woman with a large cervical polyp and moderate genital bleeding in the first trimester

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SUMMARY

Polypectomy during pregnancy is known to be a risk for spontaneous late miscarriage or preterm delivery. We managed a pregnant woman in her 30s with a large cervical polyp without polypectomy, and we administered probiotics including *Clostridium butyricum* and 17-alpha-hydroxyprogesterone caproate. As a result, she delivered a healthy baby at 38 weeks.

BACKGROUND

Cervical polyps during pregnancy may cause genital bleeding and/or vaginal discharge¹ and may also induce spontaneous late miscarriage or preterm delivery (sLMC/PTD). The ascending infection and/or inflammation² is considered one of mechanisms of sLMC/PTD. Cervical polyps in early pregnancy have recently been identified as a risk factor for sLMC/PTD and have been implicated in cervical insufficiency.³ Polypectomy is one strategy for preventing sLMC/PTD.⁴ However, the removal of cervical polyps may not improve pregnancy outcomes and is associated with an increased risk of sLMC/PTD.^{5,6} Therefore, there is currently no consensus on the management of cervical polyps during pregnancy.

In our hospital, polypectomy was previously performed on most cases of cervical polyps in pregnancy to prevent ascending infection and/or inflammation with informed consent. However, the rate of sLMC/PTD after polypectomy was high (21.9%).⁵ Furthermore, a polyp size ≥ 12 mm, genital bleeding and polypectomy before 10 weeks of gestation (WG) were identified as significant risk factors for sLMC/PTD < 34 WG.⁵ When these three risk factors were combined, the rate of sLMC/PTD < 34 WG increased to 71.4%.⁵

We here introduced multiple conservative strategies to treat a pregnant woman with a large cervical polyp and moderate genital bleeding without polypectomy, which prevented sLMC/PTD.

CASE PRESENTATION

A woman in her 30s, gravida 4 para 2, with a history of sLMC at 18 WG following rupture of membranes and gestational diabetes mellitus, was referred to our hospital at 7 WG due to a large cervical polyp (figure 1A).

INVESTIGATIONS

The size of the polyp was approximately 40 mm with moderate genital bleeding; however, the

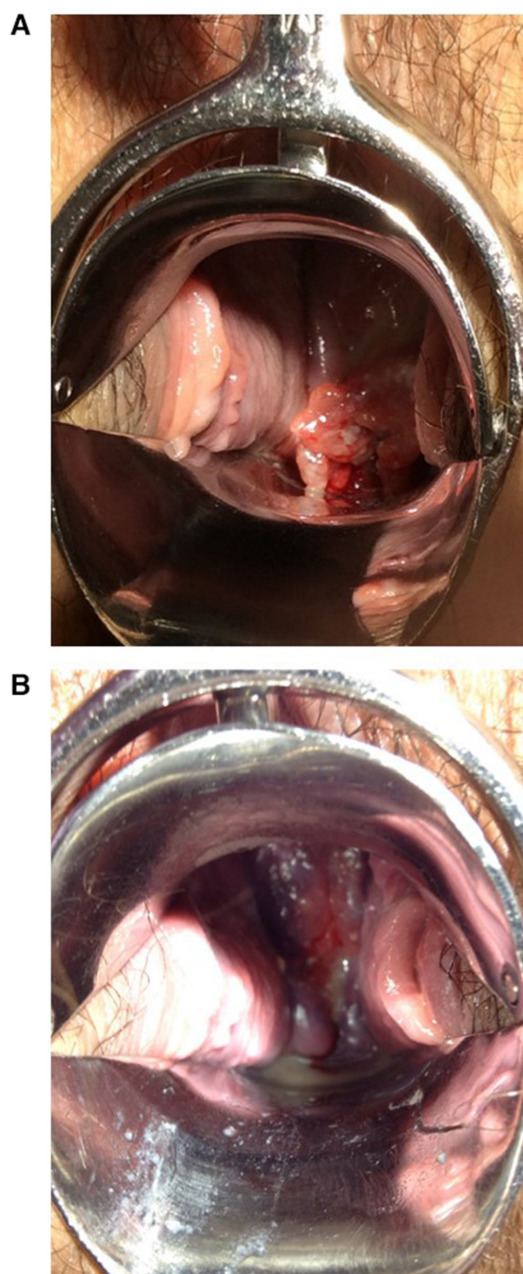


Figure 1 (A) The polyp was approximately 40 mm with moderate bleeding. (B) The cervical polyp retracted into the uterus and disappeared at 28 WG. WG, weeks of gestation.

source of haemorrhaging was not clear. There was no subchorionic haematoma. The vascularised stalk of the polyp was visualised in the cervical canal by



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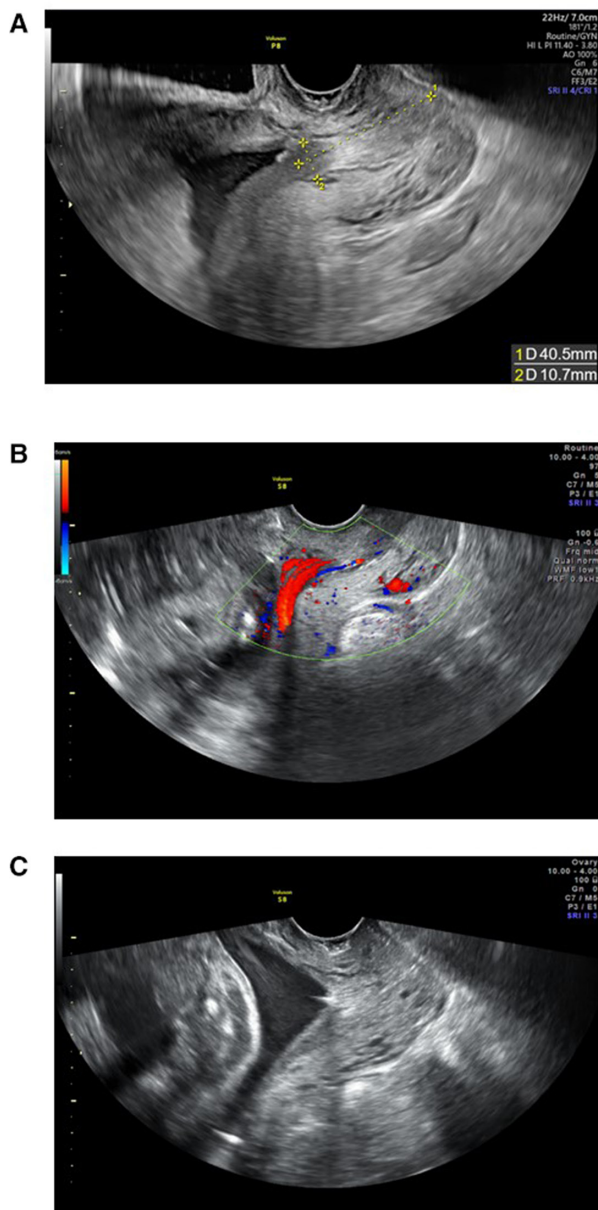


Figure 2 (A, B) The vascularised stalk of the polyp was visualised in the cervical canal by ultrasonography. (C) The cervical polyp retracted into the uterus and disappeared at 28 WG by ultrasonography. WG, weeks of gestation.

ultrasonography and appeared to be continuous with the placenta (figure 2A,B). Therefore, a decidual polyp was suspected. Based on the risk of sLMC/PTD associated with the removal of cervical polyps,^{5,6} polypectomy was not performed. Furthermore, since the patient had a history of sLMC caused by preterm premature rupture of the membrane (pPROM), the risk of sLMC/PTD was high.

TREATMENT

After discussions on the risk of sLMC/PTD with polypectomy and the patient's history of sLMC, the following preventive strategies were selected: (1) the cervical polyp was not removed, (2) oral probiotics, including *Clostridium butyricum* (10 mg/tablet), *Enterococcus faecium* (2 mg/tablet) and *Bacillus subtilis* (10 mg/tablet), were initiated,^{7,8} (3) 17-alpha-hydroxyprogesterone caproate (17OHP-C)⁹ was administered and (4) based on

previous cases diagnosed with bacterial vaginosis before 20 WG, antibiotics administered as vaginal suppositories may be used to prevent ascending infection and/or inflammation.¹⁰

OUTCOME AND FOLLOW-UP

At 7 WG, the Nugent score was 0 points. According to the results of a vaginal discharge culture, *Mycoplasma* spp and *Ureaplasma* spp were negative, while *Staphylococcus epidermidis* was positive. The cervical mucus level of interleukin (IL)-8 was 713.0 ng/mL indicating cervicitis.^{11,12} To treat genital bleeding and cervicitis, a risk factor for sLMC/PTD,¹¹⁻¹³ vaginal douching was performed with 40 mL of physiological saline every week. At 11 WG, genital bleeding stopped and the cervical mucus level of IL-8 decreased to 363.8 ng/mL.

17OHP-C at 125 mg, which is covered by the national health insurance system in Japan (250 mg is not covered), was intramuscularly administered weekly until 32 WG. Oral probiotics were administered until 36+6 WG.

At 24 WG, cervical length had decreased to 19 mm without clinical symptoms. The level of fetal fibronectin in vaginal secretions was 0 ng/mL, and the Nugent score was also 0. The patient remained asymptomatic and did not develop pPROM, cervical insufficiency or preterm labour.

As a characteristic clinical course, the cervical polyp retracted into the uterus and disappeared at 28 WG (figure 1B, figure 2C).

At 38+6 WG, the patient was diagnosed with PROM and delivered a healthy male baby (3004 g) with Apgar scores of 8 (1 min)/9 (5 min) and umbilical artery pH 7.38. The placenta and polyp were delivered. Since the polyp exhibited strong necrotic changes, a pathological diagnosis was not possible.

DISCUSSION

There is currently no consensus on the management of cervical polyps during pregnancy. The rates of sLMC and PTD were 12.3% and 34.2%, respectively, in cases in which decidual polyps were removed, and 0% and 4.8%, respectively, for endocervical polyps.⁶ However, it is not possible to confirm whether a polyp is decidual or endocervical without a pathological examination after polypectomy. We previously reported that polyps larger than 12 mm, genital bleeding and polypectomy in the first trimester were significant risk factors for sLMC/PTD < 34 WG in cases in which polyps were removed.⁵ Cervical polyps themselves were recently identified as a risk factor for sLMC/PTD.³ Based on these findings, our patient did not undergo polypectomy, and conservative strategies were employed to prevent sLMC/PTD, such as probiotics and 17OHP-C. A healthy baby was delivered at 38+6 WG.

In the first trimester, moderate genital bleeding and cervicitis are risk factors for sLMC/PTD.¹¹⁻¹³ Since *Lactobacillus* was dominant in vaginal secretions in the present case, vaginal douching was performed without antibiotics every week until the cessation of genital bleeding. The presence of *Lactobacillus*, which is associated with the prevention of sLMC/PTD by ascending infection and/or inflammation,¹³⁻¹⁶ may be important. Excessive vaginal douching was not continued because it is associated with an increased risk of spontaneous PTD.^{17,18} Cervicitis in the present case was also successfully treated by vaginal douching.

Probiotics, including *Clostridium* spp, which induce Treg cells, have been reported to prevent various autoimmune diseases, such as nephrotic syndrome,¹⁹ diabetes²⁰ and pulmonary immunosuppression.²¹ Treg cells are also essential for maintaining pregnancy.²²⁻²⁴ A previous study showed that the intestinal level

of *Clostridium* spp was significantly lower in PTD cases than in term delivery cases.²⁵ In the present case, which was a high-risk pregnancy for sLMC/PTD, probiotics were considered to be useful for maintaining pregnancy. There has only been one case report in which probiotics, including *Clostridium* spp, reduced spontaneous PTD <32 WG.⁷

17OHP-C (250 mg, intramuscular, once weekly) was reported to prevent recurrence of sPTD.⁹ Previous studies have shown that 17OHP-C effectively prolongs the gestational duration of PTD with mild intra-amniotic inflammation.²⁶ 17OHP-C has been suggested to exert an anti-inflammatory effect during pregnancy.^{27,28} Since the Cochran review in 2013, large studies about efficacy of 17OHP-C in preventing PTD continued to be questioned, but some reports have recently reevaluated its efficacy.²⁹ In Japan, a half-dose (125 mg/week) of 17 OHP-C for sLMC/PTD is covered by the National Health Insurance.

During the clinical course of the present case, cervical length decreased at 24 WG without cervical insufficiency.³ The cervical polyp retracted into the uterus and disappeared from the cervical canal at 28 weeks. In a previous case report, a cervical polyp migrated into the placental parenchyma in the uterus.³⁰ Since the isthmus of the uterus may extend in the second trimester of pregnancy, decidual polyps, which are continuous with the placenta, may be retracted into the uterus. When a cervical polyp is retracted into the uterus, it may be important that the cervical polyp is not inflamed or infected. Theoretically, the retraction of a cervical polyp without inflammation/infection or polypectomy is the optimal outcome.

Patient's perspective

At 7 weeks of gestation, I heard the explanation that the rate of miscarriage or preterm birth was 21.9%, when the cervical polyp was removed. In the absence of evidence-based treatment, I received probiotics, vaginal douching and 17-OHPC without polypectomy. I don't know these clinical trials were good, I satisfied to have a boy at 38 weeks.

Learning points

- ▶ We managed a pregnant woman with a large cervical polyp without polypectomy.
- ▶ When we find a pregnant woman with a large, bleeding cervical polyp in first trimester, management without polypectomy may avoid miscarriage or preterm birth.
- ▶ Multiple preventive strategies for spontaneous late miscarriage or preterm delivery without polypectomy may effectively prolong pregnancy.

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Case reports provide a valuable learning resource for the scientific community and can indicate areas of interest for future research. They should not be used in isolation to guide treatment choices or public health policy.

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