



## A Woman with a Hematocolpos Five Months Postpartum

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### Abstract

**Introduction:** Hematocolpos, an accumulation of menstrual blood in the vagina and hematometrocolpos, an accumulation of menstrual blood in the vagina and uterine cavity, are clinical signs that may occur due to congenital anomalies or vaginal and cervical occlusion. We report a rare case of complete vaginal atresia secondary to an injury during childbirth.

**Case Report:** A 34-year-old woman, gravida 2, para 2, came to the emergency department after suffering for two days from abdominal pain in the right lower quadrant. Five months ago, she had an assisted birth using a ventouse. She complained of amenorrhea and urinary retention. Ultrasound at the emergency department showed a spherical cavity in her vagina. A vaginal atresia resulted in an accumulation of old menstrual blood. This hematocolpos was surgically opened and normal anatomy of the vagina was restored. The vaginal atresia was the result of an injury of the birth canal that occurred during childbirth.

**Conclusion:** We present a rare case of acquired vaginal atresia resulting in a hematocolpos. It is of pivotal importance to inspect the birth canal for any injuries after childbirth. A woman's recovery postpartum should always be observed by care givers. When the recovery is atypical or abnormal, physical examination or extra investigation should be considered.

**Keywords:** Amenorrhea; Vaginal atresia/vaginal obstruction; Hematometrocolpos/hematocolpos; Urinary retention

### Introduction

Hematocolpos is an accumulation of menstrual blood in the vagina [1]. When a vaginal and cervical occlusion occurs, accumulation of blood in the vagina and uterine cavity is present. This is known as a hematometrocolpos [1]. Both conditions commonly present due to congenital anomalies [2]. It can also occur after injury of the vaginal wall, such as after an operation, radiotherapy, severe infection or childbirth. This is often referred to as acquired vaginal atresia or obstruction [3]. Acquired vaginal atresia is very rare [3]. Damage of the birth canal during labor occurs rather often [4]. These injuries will heal in most cases with no to minor residual symptoms. It is important that an injury of the vaginal wall or perineum is recognized and treated correctly [5]. If an injury is not recognized and therefore not treated properly, it can lead to scarring of the vaginal wall and perineum, leading to vaginal stenosis or atresia. We report a rare case of complete vaginal atresia secondary to an injury during childbirth.

### Case Presentation

A 34-year-old woman, gravida 2, para 2, came to the emergency department after suffering for two days from abdominal pain in the right lower quadrant. She had a history of vaginismus. She delivered twice by ventouse because of non-progressive labor during the second stage and fetal distress. Both times a healthy infant was born. She had a normal recovery after her first delivery without any residual symptoms. After her most recent delivery, examination of the birth canal was challenging due to her vaginismus. It was difficult for her to relax and she experienced the examination as very painful. This made it difficult to repair the second-degree perineal rupture. The first days of the recovery of her perineal rupture were uneventful. During the first week's postpartum she developed urinary retention, which was treated by an indwelling urinary catheter. She also noticed difficulties with penetration during sexual intercourse. Her menstruation had not yet resumed, but she noticed monthly pain in the lower abdomen. She did not take contraceptives. During physical examination, she had diffused abdominal pain in the lower part of the abdomen without defense musculaire. During vaginal examination, an adhesion of the vaginal walls was seen, with normal external female genitalia. The abdominal ultrasound showed a spherical cavity

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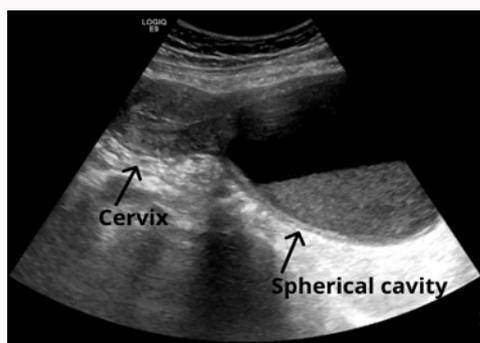
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**Figure 1:** Image of the abdominal ultrasound of the patient at the emergency department. On the left the cervix is shown, on the right the spherical cavity with a level of liquid is shown, this is the hematocolpos.

in the vagina (Figure 1). This led to the diagnosis vaginal atresia that resulted in a hematocolpos. During operation adhesiolysis was performed and a small ring of fibrous tissue was found. The hematocolpos was drained and the normal anatomy of the vagina was restored by excision of excess fibrous tissue and a surgical repair of the posterior vaginal wall. She had a good recovery. The use of vaginal pessaries and physiotherapy for relaxation of the muscles around the vagina was advised. After a couple of months normal vaginal anatomy was restored with normal menstrual flow and the capability of sexual intercourse. The urinary retention was also dissolved after the operation.

## Discussion

Injury of the birth canal during childbirth is common [4]. These injuries heal without complications if they are recognized and treated correctly. If not treated correctly, it can lead to scarring of the perineum or vagina. In rare cases, it can even lead to vaginal stenosis or atresia. It is important to have trained attendance at birth and a thorough inspection of the birth canal directly postpartum. If necessary, correct treatment of the lacerations has to be done [5]. Complete vaginal atresia postpartum is rare. Congenital causes of vaginal atresia have an incidence of 1 in 5.000-10.000 women [2]. Acquired vaginal atresia is even less common and they are mostly caused by injuries, infections or radiotherapy [3]. A hematocolpos is mostly caused by a congenital obstruction of the vagina, such as an imperforate hymen, transverse vaginal septum or an atresia [6]. These are also known causes of primary amenorrhea [7]. Vaginal atresia is also described as a cause of secondary amenorrhea [8]. Our patient was not breastfeeding; hence lactation amenorrhea was less likely [9].

Probably as a result of the hematocolpos, our patient had an abnormal recovery with occurrence of urinary retention. She had an indwelling urinary catheter for several weeks. The occurrence of urinary retention together with a hematocolpos is mostly described when an imperforate hymen is present [10]. In this case report, we emphasize the importance of recognition of an abnormal recovery postpartum. Clues in this case were the amenorrhea, urinary retention and inability for penetration. When an abnormal recovery is suspected, physical examination and if necessary further investigation should be considered.

## Conclusion

In this case report we highlight the risk of a hematocolpos caused by vaginal atresia due to injuries of the vagina after childbirth. Therefore, we advise to carefully inspect the birth canal after childbirth and to be aware when a patient has an abnormal recovery. In those cases, additional physical examination should be considered.

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