CASE REPORT

A case of vaginal varicosities without rupture after vaginal delivery

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ABSTRACT

Objective: Vaginal varicose is a rare condition characterized by dilated veins in the labia majora, labia minora, and vagina. This case report reported a woman with vaginal varicose who experienced labor without any delivery complications.

Case Report: The patient, a 29-year-old woman, gravida 3, para 2, presented with discomfort and swelling in the vagina at 32 weeks of gestational age. Despite reaching 39 weeks of gestation, the vaginal varicosities remained stable and painless. She had no prior history of varicose veins, hypertension, blood abnormalities, malignancy, or contraception usage. Physical examination revealed mild varicosities in the labium and significantly swollen varicosities protruding toward the vaginal introitus. Interestingly, a small varicose vein was also noted on her right leg, previously unnoticed by the patient. At 39 weeks pregnant, she experienced spontaneous vaginal delivery without complications. During the third stage of labor, the vaginal varicosities decreased in size, and no rupture occurred. The newborn, a healthy baby boy weighing 2961 grams and measuring 48 cm, was delivered vaginally. Despite a second-degree perineal tear, blood loss was minimal, and no complications nor rupture arose from the varicose veins.

Conclusion: Vaginal varicosities are rare, primarily occurring in multigravida pregnant women between 12 and 26 weeks of gestation. This case highlights that cesarean section is not necessarily indicated in pregnant women with vaginal varicosities. The successful vaginal delivery in this instance resulted in no varicose vein rupture, controlled bleeding, and regression of vaginal varicosities postpartum.

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Highlights:

1. Vaginal varicosities are prone to happen in pregnant women with unspecific causes and multifactorial.
2. The mode of delivery in a pregnant woman with vaginal varicosities is still unknown, but it is not an indication of cesarean section.

INTRODUCTION

Vulvovaginal varicosities refer to the enlargement of veins in the labia majora, labia minora, and vagina. The prevalence of this condition is believed to be between 18% and 22% among pregnant women. Typically, vulvovaginal varicose veins naturally decrease in size and disappear within 6 weeks after childbirth, with only 4-8% of instances persisting or becoming larger.[1,2] Pregnant women are susceptible to developing vulvo-vaginal varicosities due to the compression of veins by enlarged uterus, resulting in mechanical obstruction in the veins' pathways. Additionally, pregnancy can be attributed to hormonal fluctuations, as well as an augmentation in plasma volume and blood circulation.[2,3]

There is currently no established theory for determining the method of delivery in cases of pregnancy involving vaginal varicosities. This case is usually not indicating delivery through cesarean section. However, in certain instances, there may be a significant hemorrhage when the rupture occurs during vaginal birth. To choose the appropriate method of delivery, it is crucial to understand the root cause of the development of vaginal varicosities during pregnancy.[2,4]

This article presents a case of vaginal varicosities during pregnancy that resulted in a vaginal delivery without significant bleeding. This case report demonstrates that vulval varicosities are not be considered a contra-indication for vaginal delivery.

CASE REPORT

A 29-year-old woman who has been pregnant three times and has given birth twice reported experiencing swelling and discomfort in the vagina during 32 weeks of gestation. The patient exhibited no signs of bleeding or pain and this was her initial encounter with these symptoms. There was no record of varicose veins in her pregnancy. The patient had no prior medical history of hypertension, hematological problems, or cancer, and had never utilized contraception previously. On examination, it was discovered that the patient had a minor varicose vein in her right leg that had gone unnoticed and had not been previously evaluated. Figure 1 shows the presence of mild vaginal varicosities in the labium. Figure 2 shows significantly enlarged varico-sities of the vagina protruding towards the vaginal introitus.

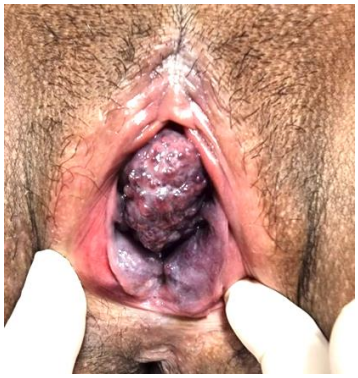

Figure 1. Mild vaginal varicosities.

Figure 2. Extensively swollen varicosities of the vagina protrude toward the vaginal introitus.

The hemodynamics of the patient were stable. Throughout the 39 weeks of gestation, the vaginal varicosities were quite stable and did not result in any discomfort. The patient was informed about the condition and the risk of vaginal delivery, specifically the possibility of rupture. However, the patient agreed proceed with the vaginal delivery. The obstetric examination revealed a fundal height of 36 cm, indicating a cephalic presentation. The fetal heart rate was normal, and the contractions occurred every 3 minutes and lasted for 30 seconds. The patient experienced the onset of childbirth at 39 weeks gestation. During the second stage of labor, the vaginal varicosities decreased in size (as shown in Figure 3) and further reduced in the third stage of labor (as seen in Figure 4). A healthy male infant was delivered by spontaneous vaginal delivery, weighing 2961 grams and measuring 48 cm in length. The total blood loss was 250 cc, accompanied by a second-degree perineal tear, and no occurrence of complications or varicose vein rupture.

Figure 3. Vaginal varicosities shrank in the second stage of labor.

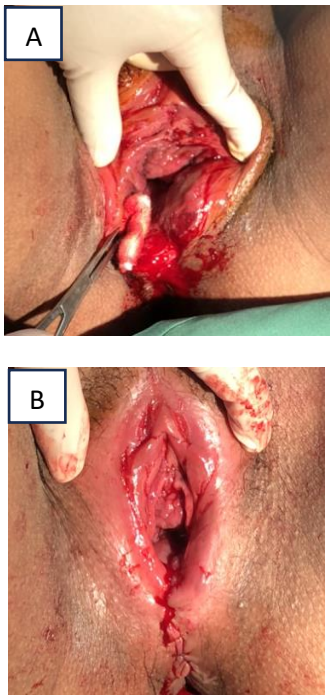

Figure 4. Vaginal varicosities diminished in the third stage of labor (a) before perineal tear repair; (b) after perineal tear repair.

DISCUSSION

Vaginal varicosities, also known as varicose veins of the vulva, refer to the enlargement of veins in the labia majora, labia minora, and vagina. Vaginal varicosities are a rare condition, occurring in only approximately 4% of women. However, they are even less prevalent than other types of varicosities. Vulvovaginal varicose veins are infrequently observed in non-pregnant individuals and typically occur in 18-22% of pregnancies. Vaginal varicosities typically occur during pregnancies that are at least 13 weeks gestation, and are more common in second or subsequent pregnancies. More precisely, throughout the period of 12-26 weeks of gestation, it had a prevalence of approximately 19.5%, which increased to over 32% after 27 weeks.[1,5,6] Studies indicate that the probability of developing vaginal varicosities rises with each pregnancy, and 72% of cases occur in women who have had six or more pregnancies. The prevalence of pelvic congestion syndrome (PCS) in women between the ages of 20 and 45 also shows an increase of 22-40%. When it occurs outside of pregnancy, it is most likely to happen around the second or third decade of life and is typically caused by portal hypertension or Klippel-Trenaunay Syndrome. Vaginal varicosities typically resolve spontaneously shortly after childbirth, or during the sixth week after giving birth.[3,5,7,8]

The etiology of vaginal varicosities is not well understood, although it is thought to arise from both proximal venous obstruction and valvular ineffectiveness. This leads to higher pressure in the veins and causes them to expand. The external pudendal veins serve as the means by which blood is drained from the vulvar area. It flows towards the saphenous opening. The internal pudendal veins serve as the means by which blood is drained from the labia and clitoris. The round ligament serves as an additional route for the drainage of the ovarian vein. The absence of valves in these perineal veins renders them more susceptible to developing varicose veins. Varicose veins can vary in size, typically have numerous connections between blood vessels, and can affect the vulva and the back and inner side of the leg. The etiology of the condition is not well comprehended due to the blood flow in the pelvic region.[9,10]

In pregnancies, there are several physiological changes in the body, especially in the blood vessels. Contraction on the blood vessels happens with the help of angiotensin II (AT II), meanwhile, prostacyclin (PGI-2) which functions to inhibit AT II in pregnancy, increases with gestational age. The pressure in the femoral vein increased from 8 mmHg (first trimester) to 24 mmHg in the term pregnancy. However, the antecubital vein pressure does not change and is suspected caused by inferior vena cava compression by the fetus. The combination of the decreasing blood flow in the pelvic vein, occlusion on the inferior vena cava by the enlarged uterus, the resistance of AT II, and increased vein pressure caused by fetal growth lead to the occurrence of varicosities. The varicose will enlarge as the gestational age increase and can expand from the vulvar to the vaginal.[3,11]

In most of the cases following the vaginal varicosities, diagnosis can be made through history taking and physical examination, especially in the external genitalia. Vaginal varicosities can be asymptomatic, but the common symptoms are swelling in the major and/or minor labia, vulvodynia, pain in the labium, swelling in the perineal area, discomfort in the hypogastric region, dyspareunia, dysuria, dysmenorrhea, and itch in the genital area. In the physical examination, we can also see the bluish or purplish color of the vein underneath the skin that bulges and may look swollen, twisted, or bunched into a cluster. These dilated veins may not only be seen in the vulvovaginal area but also in the upper thighs, buttocks, or calves. It is sometimes called a bag of worms. Inspection needed to be done while standing to see when the veins are not compressed and sitting to see when the veins are compressed. There are several modalities that can help diagnose vulvar varicosities, such as Doppler ultrasonography, CT scan, MRA, venography, and diagnostic laparoscopy. These modalities can also be used to determine the mode of surgery in vaginal varicosities.[3,9,12,13]

The management of this condition varies between pregnant and non-pregnant women. During pregnancy, the treatment typically focuses on managing symptoms as regression often happens after delivery. The recommended therapies include elevating the legs, utilizing a pelvic supporter that applies pressure and provides support to the vulvar area, engaging in physical exercise, avoiding prolonged periods of standing or sitting, applying compression with a support hose, and sleeping on the left side.[9,14] Surgical intervention during pregnancy is reserved for cases where complications such as thrombosis, hemorrhage, or ineffective conservative therapy arise. The methods include sclerotherapy, endovascular transcatheter embolization, and local excision. After pregnancy, varicose veins frequently resolve, leaving a visible minor residual varicose vein. Vaginal varicosities may rupture, leading to bleeding. Severe blood loss may occur due to large size of the varicose. However, the majority of the bleeding in varicosities is minor and not life-threatening. The treatment involves the ligation of blood vessels, the use of cautery, and the application of laser therapy.[15,16,17]

The precise theory on the method of delivery in cases of vaginal varicosities during pregnancy remains uncertain. Cesarean section is contraindicated in pregnancies with vaginal varicosities, although spontaneous vaginal delivery is permissible. This is because during labor, the descent of the baby's head exerts pressure on the veins, which helps alleviate the varicosities. Nevertheless, there is a lack of evidence to support the notion that either vaginal delivery or cesarean section provides any benefits in cases of significant vaginal varicosities. Furthermore, there is no current data to quantify the risk of varicose veins rupturing during vaginal delivery.[2,18] Spontaneous vaginal delivery typically does not result in complications, as stated in several literatures. However, it is crucial to do a comprehensive evaluation and analysis of the risks and advantages when deciding on the method of delivery in order to avoid the issues associated with vaginal varicosities. The complications include thrombosis, pulmonary embolism, and severe bleeding resulting from the rupture of the veins in the extensive vaginal varicosities (Table 1).[19,20]

We reported a successful spontaneous vaginal delivery of a 39-week pregnant woman who presented with vaginal varicosities. The patient was eligible for a vaginal delivery as there were no indications for a cesarean section and no contraindications for a vaginal delivery. The delivery did not result in rupture to the varicose and other veins. The bleeding was managed effectively, and the vaginal varicosities regressed the baby was delivered.

Table 1. Complications on mode of delivery in vaginal varicosities.[1,2,18,21]

Mode of delivery	Complications	Treatments	Prevention
Vaginal delivery	Rupture	● External pressure ● Antifibrinolytic	● Apply ice or cold pack onto the vulva area ● Antifibrinolytic
	Vulvar hematoma	● Incision and drainage of the hematoma	
	Hemorrhage	● Antifibrinolytic	
Cesarean section	Venous Thromboemboli (VTE) Lung embolism	● Anticoagulants ● Embolectomy ● Vena cava filter ● Vein ligation ● Phlebectomy	● Avoid staying in one position for long, change position from time to time ● Get a support garment specifically for vaginal varicosities ● Elevate legs to help promote circulations ● Antifibrinolytic*

*Post-delivery

CONCLUSION

Vaginal varicosities are a rare condition primarily affecting pregnant women with multigravida and occurring during the 12-26 weeks of gestation. Diagnosis is based on anamnesis, physical examination, and radiologic tests. The consensus on diagnosis, treatment, and delivery mode is still undefined. Conservative, symptomatic, and prophylactic treatment is the only choice. Surgery may be necessary in some cases, but cesarean section is not recommended. Most cases can regress spontaneously within 6 weeks postpartum. In this case, spontaneous vaginal delivery was chosen and the vaginal varicosities regressed spontaneously as the baby was delivered and caused no complications at all.

DISCLOSURE

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Conflict of interest

The authors declare that they have no conflict of interest regarding the publication of this case report.

Patient consent for publication

Written informed consent for the case to be published (including images, case history, and data) was obtained from the patient for publication of this case report.

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Author contribution

All authors have contributed to all processes in this research, including preparation, data gathering, analysis, drafting, and approval for publication of this manuscript.

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