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Prepubertal Labial Varicosity: Understanding the Uncommon

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Abstract

Vulval varicosity refers to the dilation of veins in the vulvar region, often caused by venous insufficiency, and is commonly associated with pregnancy or conditions that increase pelvic venous pressure. This report describes a rare case of vulval varicosity in an 11-year-old prepubertal female who presented with swelling and inflammation of the right labia majora. Despite conservative measures, as her symptoms persisted, further investigation through imaging was performed which revealed a flow varix with venous channel communication to the sapheno-femoral junction. Sclerotherapy was performed successfully, and the varicosity collapsed within one week. This case underscores the significance of early diagnosis and the use of minimally invasive treatments, like sclerotherapy, in managing vulval varicosities, even in prepubertal children. It also emphasizes the need for weight management to prevent recurrence and reduce the risk of comorbid conditions, such as diabetes mellitus.

Keywords: Vulval varicosity, Venous insufficiency, Sclero-embolization

INTRODUCTION

Vulval varicosities are to the abnormal dilation of veins in the vulvar region, often resulting from venous insufficiency. It is commonly associated with pregnancy, pelvic venous congestion, or other conditions that elevate pressure on the pelvic veins. Symptoms may include pain, swelling, and a sensation of heaviness in the vulvar area, which can intensify during pregnancy due to increased blood volume and hormonal changes that affect venous tone. While vulval varicosities are generally self-limiting during pregnancy and tend to improve postpartum, severe cases may necessitate medical intervention, such as the use of compression stockings, lifestyle modifications, or surgical treatment. [1]
Vulval varicosity in prepubertal females is rare. It typically presents as a soft, non- tender, and often asymptomatic swelling in the vulvar region. It is more commonly associated with venous insufficiency, trauma, or congenital venous anomalies. In prepubertal girls, vulval varicosity is often seen in the context of an underlying venous malformation or may be linked to conditions that increase pelvic venous pressure, such as obesity or constipation. Clinical presentation may include swelling, pain, or heaviness, and diagnosis is typically confirmed through imaging techniques like ultrasound or MRI.[2][3]

Case Report:

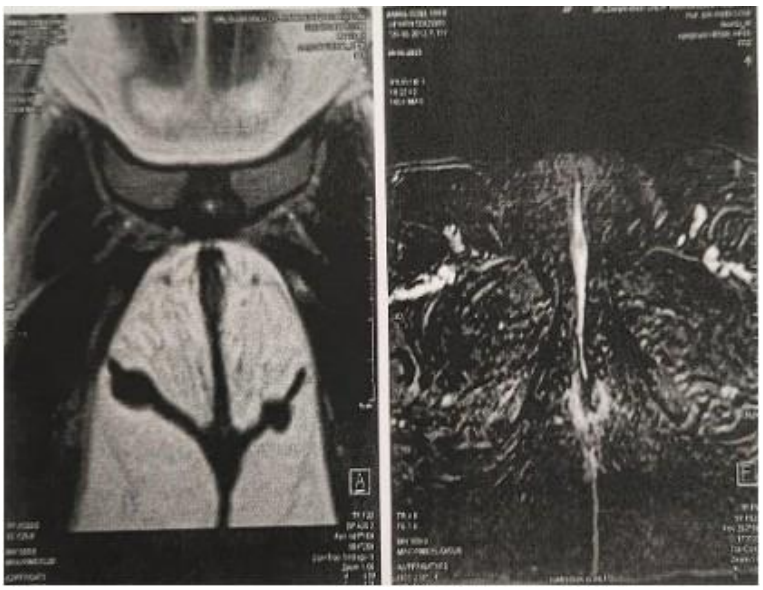
A11-year-old obese girl presented with swelling and inflammation on the right labia majora, which was

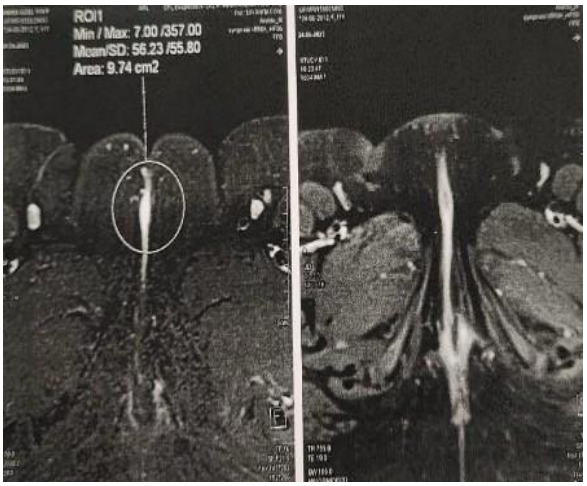
noticed by her mother one week prior to the presentation. Despite the application of ice packs and anti-inflammatory medications as advised by a local physician, the swelling persisted. There was no history of trauma, and no previous episodes of similar complaints. The patient had a BMI of 26kg/m^2, had not yet attained menarche and showed signs of early secondary sexual development (Tanner stage 2 for breast and pubic hair development). The family history was notable for diabetes mellitus [DM]. Abdominal and pelvic exams were unremarkable.

On examination in the lithotomy position, a bluish discoloration of the right labia majora was observed (Figure 1). Gentle palpation revealed a soft, non-tender, cystic swelling measuring approximately 2-3 cm. The swelling enlarged with a Valsalva maneuver and while standing, but decreased in size with pressure. No varicosities were noted in the inguinal, gluteal, or lower limb regions. The external genitalia appeared otherwise normal.


Figure 1 and 2: Inspection of vulva showing bluish discoloration of the right labia majora.

Ultrasound imaging revealed a well-defined cystic lesion (2.4 x 1.8 x 1.1 cm) in the right vulval region, suggestive of a flow varix in the subcutaneous plane. The venous channel was narrow and extended horizontally into the groin, communicating with the sapheno-femoral junction without abnormal dilation in the groin.





Figures 3 & 4: MRI showing venous channels draining the lesion.

MRI confirmed the diagnosis with a well-defined, elongated cystic lesion (2.5 x 0.6 cm) in the right vulva. The lesion appeared hyperintense on T2, isointense on T1, and showed slow delayed enhancement on dynamic post-contrast sequences. A prominent serpiginous venous channel was seen draining the lesion and opening into the tributary of the right superficial femoral vein, consistent with a varix.

The patient and her parents were advised to undergo sclerotherapy. Sclero-embolization was performed by an interventional radiologist using 1.5 cc of Seton® and 1.5 cc of Air-Sclerofoam injected through a 22G scalp vein, followed by magnesium sulfate and glycerin dressing applied daily for 7 days.

Figure 5: Post-sclero-embolization image showing collapsed varicosity

Post surgery day 7 patient came for routine check-up with collapsed varicosities as shown in figure 4. Parents are advised to control weight to avoid such conditions and risk of DM in future

DISCUSSION:

Vulval varicosities are dilated veins in the labia majora and minora, forming connections between pelvic and perineal vessels.[4] The external genitalia drain into the internal and external iliac veins via the internal and external pudendal veins. The external pudendal vein then drains into the great saphenous vein, followed by the femoral vein and external iliac vein. Both iliac veins merge into the common iliac vein, which drains into the inferior vena cava and ultimately into the right atrium. [5]

While, there are other treatment options for varicosities, including compression therapy, laser treatment, and surgery. Sclerotherapy is the most effective, minimally invasive, and cost-efficient treatment plan. It provides a high success rate with minimal recovery time and fewer complications, making it an attractive option for managing varicose veins, particularly in sensitive areas like the vulva. [6]. Side effects are rare but can include pain, redness, swelling at the injection site, or allergic reactions to the sclerosing agent. Typically, 1.5-2 mL of sclerosing agent is injected into the affected vein while the patient is in a supine position. Manual compression of the injection site for 5-7 minutes is recommended, and patients are advised to wear tight elastic underwear for 7-10 days following the procedure. In most cases, a single dose of injection is sufficient, though some patients may require a second treatment. Surgical intervention remains the last resort.[7]
For vulval varicosities in pregnancy, veno-active drugs such as MPFF (Detralex) may be used as an alternative treatment, particularly for symptomatic relief. However, surgical treatments are reserved for severe or refractory cases.

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