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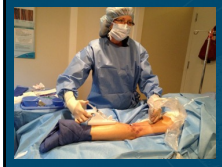
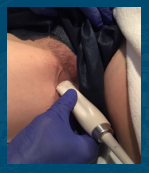
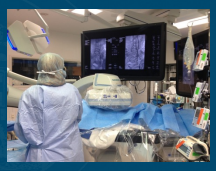
Connecting The Vascular Community

Management of Labial Veins (leg veins of pelvic origin)

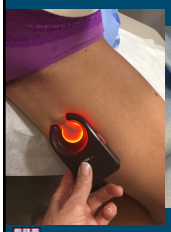
Julianne Stoughton MD, FACS, ABVLM
Massachusetts General Hospital/ Harvard Medical School
Boston, MA

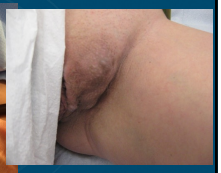
Veith Meeting 2024 NYC

No disclosures

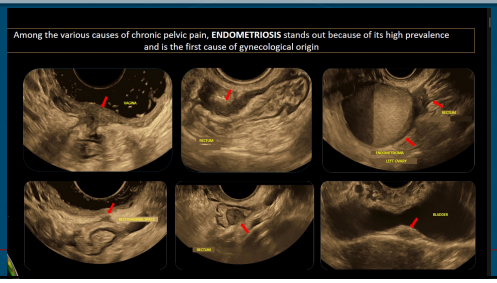




Keep High index of suspicion with atypical leg vein patterns: Do exam, US and Vein Light to ID groin, vulvar and buttock veins

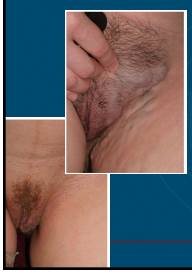




Have GYN evaluation especially if there are pelvic or abdominal symptoms – Rule out endometriosis #1 cause of pelvic pain in females



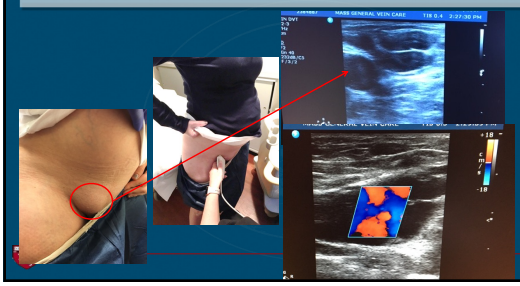
Vulvar Varices in Pregnancy



- Occur in at least 2% (or more) of pregnant women
- Seem to be caused from gravid uterus compressing IVC and/ or iliac viens. Increased blood volume and hormonal factors also have a role.
- May cause extensive hemorrhage during delivery if they rupture (although hemorrhage is rare)
- Can be an indication for C. Section if very large ?? (no consensus)
- Seem to shrink during 2nd stage of labor (when fetal head descends)
- Marked regression post partum occurs spontaneously

Furuta et al Eur J of Obstetrics and Gynecology 2013

Beware: Incorrect Diagnosis of Inguinal Hernia

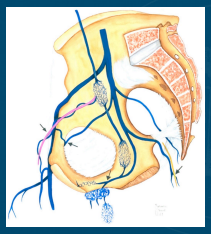


Conservative measures: Labial Veins

- Role of Hormone Impregnated IUD's
  - Anecdotal evidence of improvement in symptoms
  - Needs further research
- Compression stockings for lower extremities
  - 20-30 mm Hg recommended, or as tolerated for symptoms
  - This helped reduce such symptoms as heaviness and swelling of the vulvar labial region
- Micronized Purified Flavonoid Treatment (MPFF) – venotonic drug
  - May play a role in reducing symptoms

International Journal of Women's Health 2017

Labial veins and leg veins coming from Pelvic Origin



A comprehensive ultrasound approach to lower limb varicose veins and abdominal-pelvic connections

Fanilda Souto Barros, MD,a Joana Storino, MSc,b Nathalia Almeida Cardoso da Silva, MSc, MD,c Francine Freitas Fernandes, MD,d Manuella Barreto Silva, MD,d and Ariadne Bassetti Soares, MD,e Vitória, Belo Horizonte, São Luís, and Salvador, Brazil

JVS-VL 2024

Full history of PE, guided pelvic imaging, use SVP staging

PELVIC INVESTIGATION PROTOCOL

Step 1. Vascular ultrasound of the lower limbs and transperineal

1.1 To select patients with lower limb varicose veins that connect to the pelvic territory through pelvic escape points using the transperineal ultrasound approach.
1.2 To identify the pelvic escape points (Inguinal, Perineal, Gluteal, and Obturator).

Step 2. Transabdominal vascular ultrasound

2.1 To evaluate the presence of iliac and renal venous compression.
2.2 To evaluate the gonadal and internal iliac veins.
2.3 To assess the patency of the inferior vena cava and iliac axis.

Step 3. Transvaginal vascular ultrasound

3.1 To identify the presence of peri-uterine varicose veins.
3.2 To assess the flow in the gonadal and internal iliac veins.
3.3 To assess the patency of these vessels.

For Vulvar veins:

Investigation of pelvic leak points.
- Standing position
- Reflux in the PEPs induced with the Valsalva maneuver
- Linear transducer used for PEP's
- Directed by physical exam

The PEPs and the anatomic relationships are mapped between pelvic vein pathology and leg veins

Perineal Escape Point evaluation "P point" most common 79%, R>L

Fig 4. A. Location of the perineal escape point on transperineal ultrasound examination. B. Varicose veins in the perineal region and root of the thigh. C. Perineal escape point with reflux on color Doppler. Authors archive.

Perineal point (P point)

The transducer was positioned at the junction of the posterior one-quarter and anterior three-quarters laterally to the labia majora, close to Alcock's canal, where the perineal veins continue after receiving the labial tributaries, thus connecting the internal and external pudendal systems. Slight movements are made in a medial direction towards the pubis with the thigh slightly flexed

Inguinal Escape Point 25%, L>R

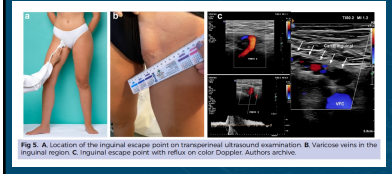


Fig 5. A. Location of the inguinal escape point on transperineal ultrasound examination. B. Varicose veins in the inguinal region. C. Inguinal escape point with reflux on color Doppler. Authors archive.

Inguinal point

The transducer was placed on the inguinal ligament, above the saphenofemoral junction, and moved in the superior and medial direction to about 1 cm above and lateral to the pubic bone to assess for the presence of varicose veins exteriorizing in the superficial ring. This escape point has three peculiarities: an ultrasound image with a concave aspect, it is associated with varicose veins in the pubic region, and, in most cases it is related to varicose veins in the peri uterine or parametrial regionpoint). T

Gluteal Escape points 13%, R>L

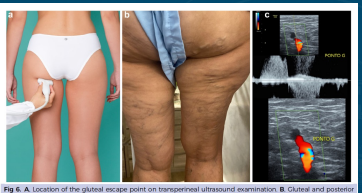


Fig 6. A. Location of the gluteal escape point on transperineal ultrasound examination. B. Gluteal and posterior thigh varicose veins C. Gluteal escape point with reflux on color Doppler. Authors archive.

Gluteal point (G point)

In the greater sciatic notch, the superior gluteal vein passes above the piriformis muscle, whereas the inferior gluteal vein passes below the piriformis muscle, and the gluteal point is located along the intrapelvic passage of the gluteal veins. The venous plexus of the sciatic nerve can be seen in the posterior proximal aspect of the thigh and is drained by the inferior gluteal vein

Obturator Point (less common, R>L)

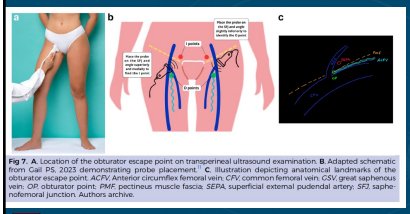


Fig 7. A. Location of the obturator escape point on transperineal ultrasound examination. B. Adapted schematic from Gall PS, 2023 demonstrating probe placement. C. Illustration depicting anatomical landmarks of the obturator escape point. *ACFV*, Anterior circumflex femoral vein; *CFV*, common femoral vein; *GSV*, great saphenous vein; *OP*, obturator point; *PMF*, pectineus muscle fascia; *SEPA*, superficial external pudendal artery; *SFJ*, saphenofemoral junction. Authors archive.

Obturator point (O point)
It is located at the level of the saphenofemoral junction, in the obturator canal, and connects the deep veins of the anterior thigh muscles with the internal iliac vein. The transducer is placed between the great saphenous vein and the femoral vein in the inguinal region to visualize this point

Finish with proximal evaluation (with or without pelvic symptoms?)

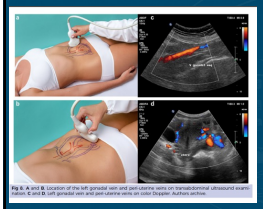


Fig 8. A and B. Location of the left gonadal vein and peri-uterine veins on transabdominal ultrasound examination. C and D. Left gonadal vein and peri-uterine veins on color Doppler. Authors archive.

Transabdominal US

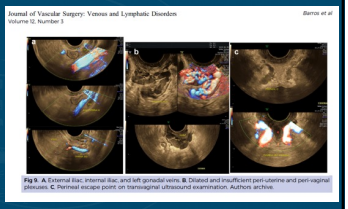
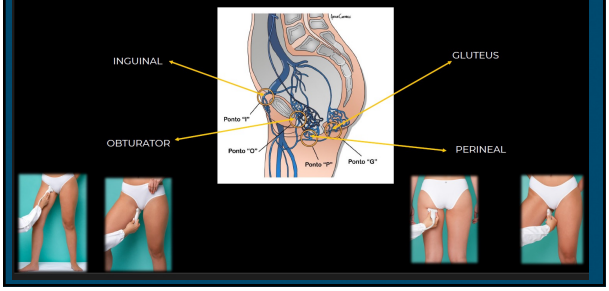


Fig 9. A. External iliac, internal iliac, and left gonadal veins. B. Dilated and insufficient peri-uterine and peri-vaginal plexuses. C. Perineal escape point on transvaginal ultrasound examination. Authors archive.

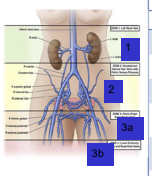
Transvaginal US

LABIAL VEINS = PELVIC LEAK POINTS



The Symptoms-Varices-Pathophysiology (SVP) Classification of Pelvic Venous Disorders

A Report of the American Vein & Lymphatic Society International Working Group on Pelvic Venous Disorders



(S) SYMPTOMS		(V) VARICES		(P) PATHOPHYSIOLOGY	
S_0	No symptoms	V_0	No abdominal, pelvic, or pelvic origin extra-pelvic varices	Anatomy	IVC Left renal vein Gonadal vein Common iliac vein External iliac vein Internal iliac vein Pelvic escape vein
S_1	Renal symptoms of venous origin	V_1	Renal hilar varices		
S_2	Chronic pelvic pain of venous origin	V_2	Pelvic varices		
S_3	Extra-pelvic symptoms of venous origin	V_3	Pelvic origin extra-pelvic varices		
a	Localized symptoms associated with veins of the external genitalia	a	Genital varices (vulvar varices and varicocele)	Hemo dynamics	Obstruction (O) Reflux (R)
b	Localized symptoms associated with pelvic origin non-saphenous leg veins	b	Pelvic origin lower extremity varicose veins arising from pelvic escape points, extending into the thigh.	Etiology	Thrombotic (T) Non-thrombotic (NT) Congenital (C)
c	Venous claudication				

Journal of Vascular Surgery Venous and Lymphatic Disorders

Meissner et al, *J Vasc Surg Venous Lymphat Disord. May 2021*

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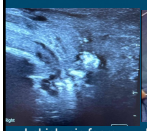
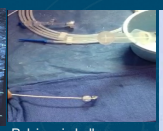
SVP System

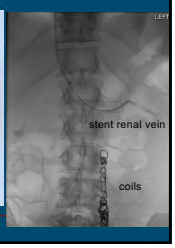
Helps define symptoms, anatomy and pathophysiology, and target toward disease specific treatments…



Labial vein foam sclerotherapy



Pelvic vein balloon occlusion sclerotherapy and coils



Open surgical options

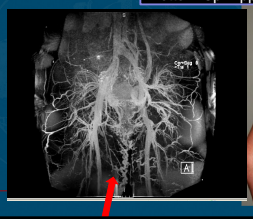
S 3a,b, V 2-3a,b, P LOV, R, NT

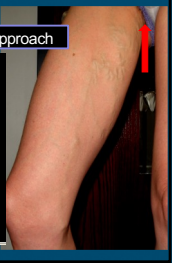
Symptoms: Minimal pelvic symptoms, + 3a,b labial/ leg pain

Veins: gonadal vein dilatation (V2), pelvic vv's and labial veins into leg vein (V3 a,b)

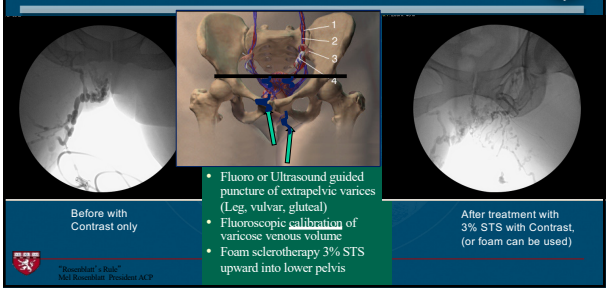
Pathophysiology: Reflux not thrombotic (gonadal vein and pelvic escape point/ labial veins)

Bottom-Up" Approach





Bottom-Up: Fluoroscopic guided Obliteration of Pelvic Escape Points

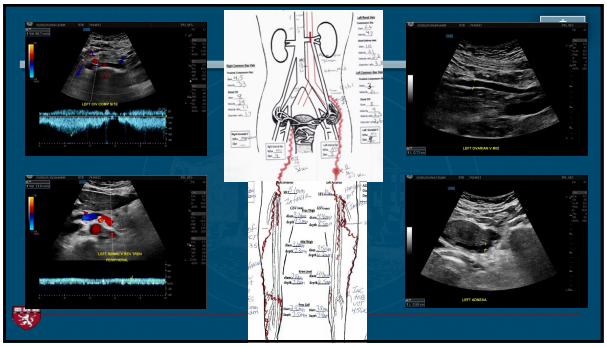


Before with Contrast only

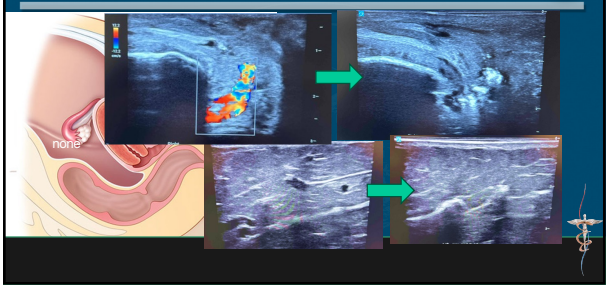
- Fluoro or Ultrasound guided puncture of extrapelvic varices (Leg, vulvar, gluteal)
- Fluoroscopic calibration of varicose venous volume
- Foam sclerotherapy 3% STS upward into lower pelvis

After treatment with 3% STS with Contrast, (or foam can be used)

"Rosenblatt's Rule"
Mel Rosenblatt President ACP

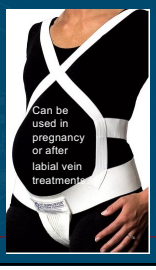


Bottom-up approach:
Ultrasound-guided sclerotherapy of vulvar and perineal escape points



Ultrasound guided (or vein light guided) foam sclerotherapy

- Office procedure, vein light or ultrasound guided (or fluoro if available)
- Access: 30 g needle, or butterfly
- 1% polidocanol - liquid, or foam 1:4 ratio with air
- Usually requires assistant, patient in frog-leg position, Trendelenburg
- Done simultaneously with leg vein procedures prn
- Stockings and compression shorts/ Spanx or V-supporter for two weeks
- Normal activities, as tolerated (can avoid heavy lifting?)
- Repeat treatments as needed (intraluminal thrombus usually resolves)



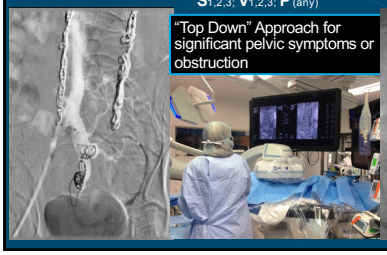
Results: Patients with Leg Veins from Pelvic Source Treated "Bottom up"
S. Gianesini Phlebolymphology 2016

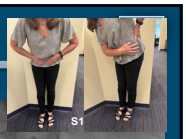
- 595/756 (79%) symptomatic patients treated with US guided foam sclero into PEP were successfully treated (suppression of pelvic reflux by duplex) at 4 years mean follow up.
- 304 patients needed 1 injection, 281 needed 2 injections, and 10 needed 3 injections
- Only 14/756 patients had complaints of lower abdominal heaviness
- Only 11/756 c/o dyspareunia prior to injection
- Significant reduction in lower abdomen symptoms following Bottom-up treatment

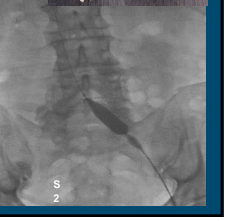
Management: Pelvic Varices, Perineal veins +/- leg veins WITH significant pelvic symptoms and/or proximal obstruction

S1,2,3; **V**1,2,3; **P** (any)

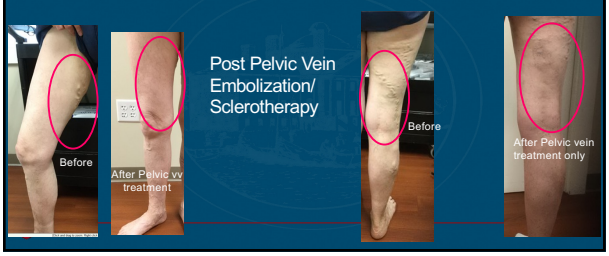
"Top Down" Approach for significant pelvic symptoms or obstruction







Top – Down Rx can reduce PEP and leg veins and S3a,b symptoms



Summary : Management

- If patients with labial veins have minimal pelvic symptoms, treat from the "Bottom Up" first
- Identify PEP's accurately and treat escape points to help perineal and leg symptoms (and alleviate lower pelvic symptoms as well)
- If patients with labial veins have significant abdominal/ pelvic symptoms, or significant proximal venous obstruction, treat from the "Top Down" first
- Utilize multidisciplinary team to help rule out alternative pathologies

Treat for the SYMPTOMS

THANK YOU