Pelvic Congestion Syndrome and Chronic Lower Limb Swelling

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Introduction

PELVIC CONGESTION SYNDROME (PCS) AND CHRONIC LEG SWELLING REPRESENT TWO INTERRELATED YET DISTINCT MEDICAL CONDITIONS, BOTH STEMMING FROM VENOUS INSUFFICIENCY.

PCS MANIFESTS AS CHRONIC PELVIC PAIN AND DISCOMFORT DUE TO VENOUS CONGESTION IN THE PELVIC REGION

CHRONIC LEG SWELLING INVOLVES PERSISTENT SWELLING IN THE LOWER EXTREMITIES, OFTEN AS A CONSEQUENCE OF VENOUS DYSFUNCTION.

Objectives

- Pathophysiology
- Clinical manifestations
- Diagnostic approaches
- Management strategies

PCS

PCS is a multifaceted disorder characterized by dilated pelvic veins and impaired venous return

Results in pelvic pain, associated symptoms and varicosities (vulval or scrotal)

Pathophysiology

venous reflux and incompetence in the gonadal and internal iliac veins, leading to increased venous pressure within the pelvis.

Presentation

chronic pelvic discomfort

dyspareunia (pain during sexual intercourse)

dysmenorrhea (painful menstruation)

frequency or urgency

Diagnosis:

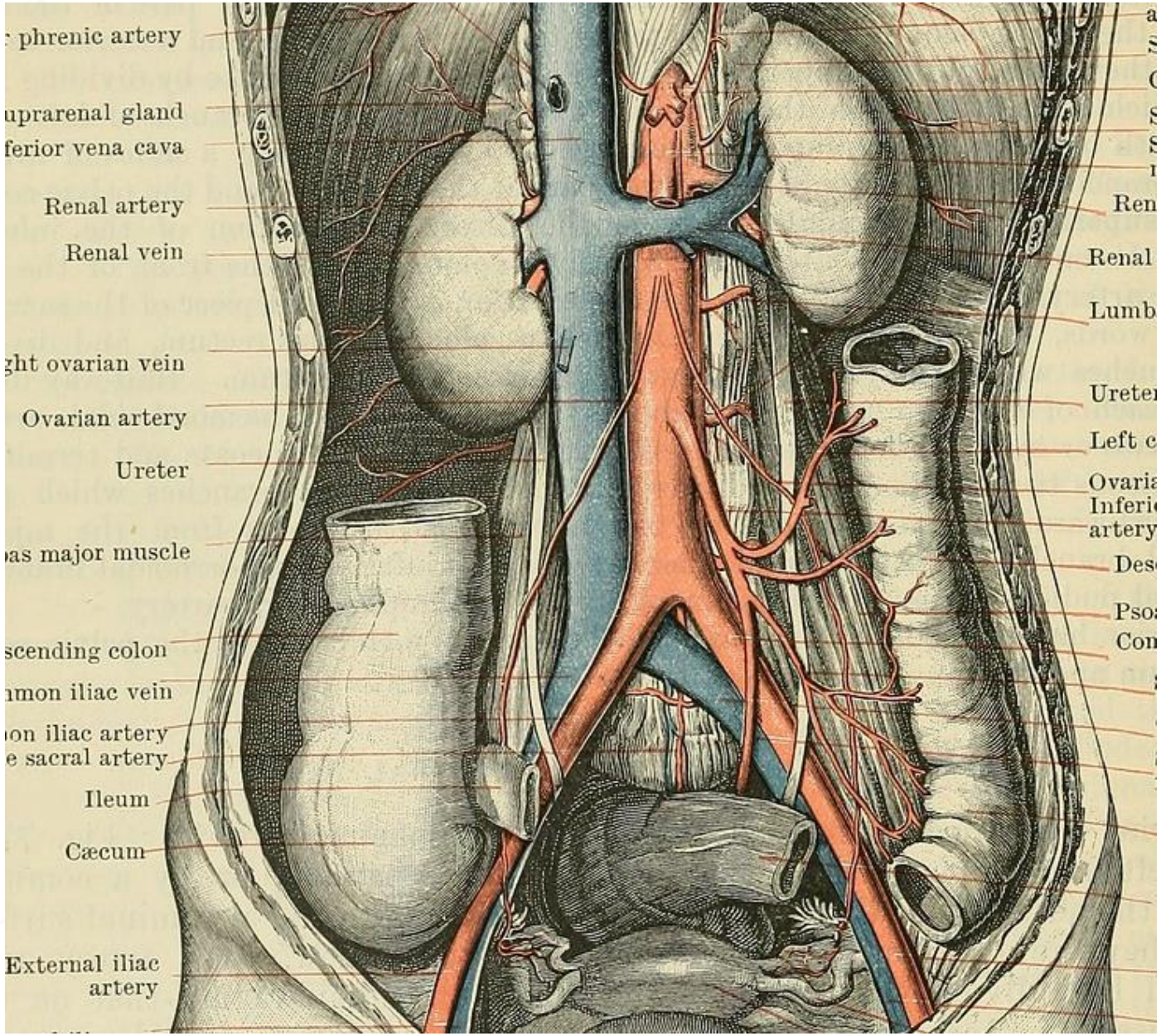
clinical assessment

imaging modalities including ultrasound, CTV and MRI

Exclusion of other pelvic pathologies (laparoscopy)

References:
•Ignacio EA, Dua R, Sarin S, et al. Pelvic Congestion Syndrome: Diagnosis and Treatment. Semin Intervent Radiol. 2008;25(4):361-368. doi:10.1055/s-0028-1103004
•Monedero JL. Pelvic congestion syndrome: the current state of the literature. Int Angiol. 2014;33(1):12-18.

Anatomy


phrenic artery
uprarenal gland
ferior vena cava
Renal artery
Renal vein
ght ovarian vein
Ovarian artery
Ureter
as major muscle
scending colon
mon iliac vein
on iliac artery
e sacral artery
Ileum
Cæcum
External iliac artery

Differential Diagnosis for Pelvic Pain

- Pelvic pain
  - gynecological, gastrointestinal, urological, and musculoskeletal conditions.
  - Gynecological causes
    - Endometriosis, adenomyosis, ovarian cysts, pelvic inflammatory disease (PID), uterine fibroids.
  - Gastrointestinal causes
    - Irritable bowel syndrome (IBS), inflammatory bowel disease (IBD), diverticulitis.
  - Urological causes
    - Urinary tract infection (UTI), interstitial cystitis, bladder stones.
  - Musculoskeletal causes:
    - Pelvic floor dysfunction, sacroiliac joint dysfunction, pelvic girdle pain.

Indications for Treatment of Pelvic Congestion Syndrome

- Chronic pelvic pain refractory to conservative measures.
- Impact on daily activities, work, and relationships.
- Negative impact on mental health and emotional well-being.
- Desire for symptom relief and improved quality of life.

A multidisciplinary team comprising gynecologists, interventional radiologists, vascular surgeons, and other specialists collaborates to optimize patient outcomes.

Management of PCS

- Pharmacotherapy with nonsteroidal anti-inflammatory drugs (NSAIDs) may provide symptomatic relief
- Interventional therapies
  - Endovascular procedures such as venous embolization and sclerotherapy,
  - Surgical options, such as pelvic vein ligation

References:
•Vedantham S, Ihnat DM. Treatment of Lower Extremity Venous Insufficiency. Circulation. 2012;126(22):2707-2716. doi:10.1161/CIRCULATIONAHA.111.056669
•Baessler K, Schuessler B. Abdominal and pelvic vein thrombosis: Novel insights into incidence, etiology and clinical relevance. Eur J Obstet Gynecol Reprod Biol. 2017;210:366-370. doi:10.1016/j.ejogrb.2016.12.03

Embolization

References:
•Laborda A, Medrano J, de Blas I, et al. Endovascular treatment of pelvic congestion syndrome: visual analog scale (VAS) long-term follow-up clinical evaluation in 202 patients. Cardiovasc Intervent Radiol. 2013;36(4):1006-1014.

n Intervent

Gonadal
(PCS). It
congesti
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Indicatio

- Persist
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- Desire

Risks:

- Vascul
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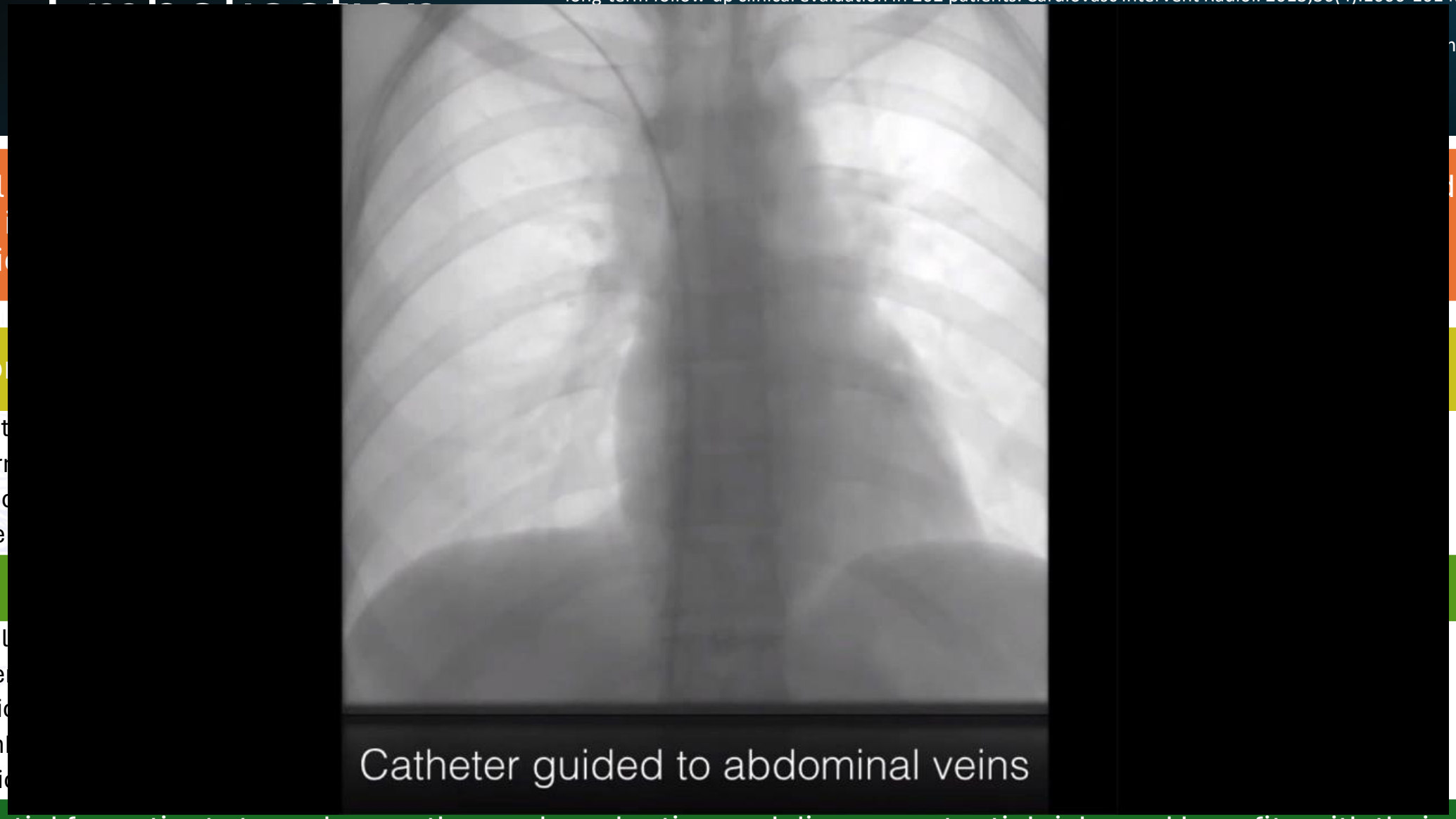
- Allergi
- Throm
- Infecti



It's essential for patients to undergo a thorough evaluation and discuss potential risks and benefits with their healthcare provider before undergoing gonadal vein embolization for PCS management.

Chronic Leg Swelling Differentials

Venous Insufficiency:

- Chronic venous insufficiency (CVI) due to valvular incompetence or obstruction.
- Deep vein thrombosis (DVT) leading to post-thrombotic syndrome.
- Superficial thrombophlebitis.

Lymphatic Disorders:

- Lymphedema secondary to lymphatic obstruction or dysfunction.
- Primary lymphedema (congenital or hereditary).

Heart Failure:

- Chronic heart failure leading to dependent edema.
- Right heart failure causing peripheral edema.

Renal Disorders:

- Nephrotic syndrome with generalized edema.
- Chronic kidney disease with fluid retention.

Chronic Leg Swelling Differentials 2

Inflammatory Conditions:	Rheumatoid arthritis leading to joint effusions and swelling. Systemic lupus erythematosus (SLE) causing peripheral edema.
Infectious Etiologies:	Cellulitis or soft tissue infections. Lymphangitis.
Medication-induced:	Calcium channel blockers causing lower extremity edema. Hormone replacement therapy with estrogen leading to fluid retention.
Neurological Conditions:	Peripheral neuropathy with sensory loss and swelling. Complex regional pain syndrome (CRPS).
Malignancy:	Lymphatic obstruction due to metastatic involvement. Paraneoplastic syndromes causing edema.
Musculoskeletal Disorders:	Osteoarthritis leading to joint effusions. Tendonitis or bursitis with localized swelling.

Treatment of lower limb swelling

1. Compression Therapy:
    1. Graduated compression stockings: Provide external pressure to improve venous return and reduce edema.
    2. Compression bandaging: Used in severe cases or acute exacerbations to reduce swelling and promote healing.
2. Elevation:
    1. Elevating the legs above heart level when sitting or lying down helps facilitate venous return and reduce dependent edema.
3. Physical Activity:
    1. Regular exercise, such as walking or swimming, aids in muscle pump activity, enhancing venous circulation and reducing edema.
4. Pharmacotherapy:
    1. Diuretics: May be prescribed in cases of fluid overload secondary to heart failure or renal dysfunction.
    2. Nonsteroidal anti-inflammatory drugs (NSAIDs): Provide pain relief and reduce inflammation in conditions such as arthritis or tendonitis.

Reference
•Coleridge
•National
Accessed
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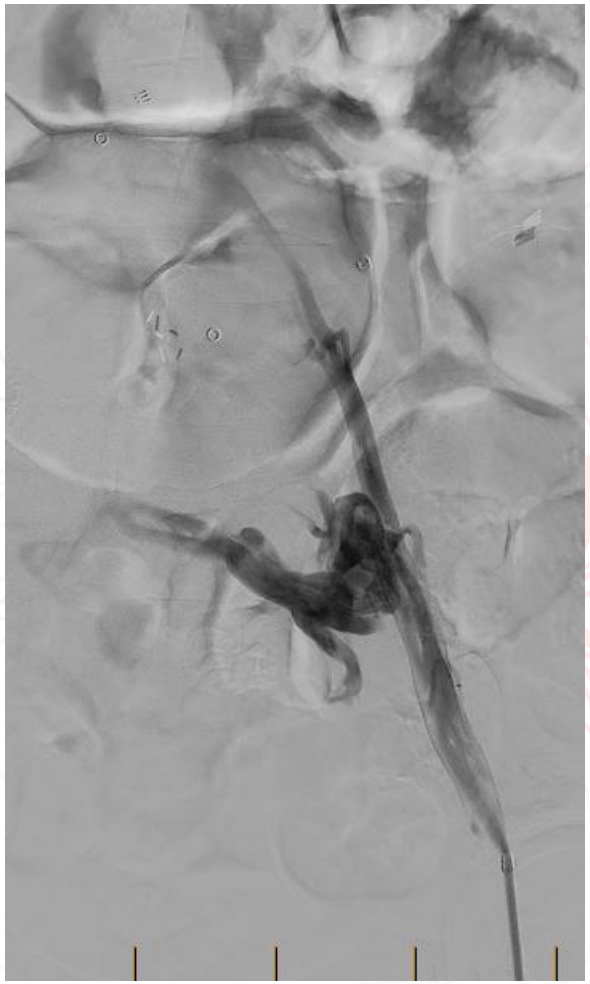
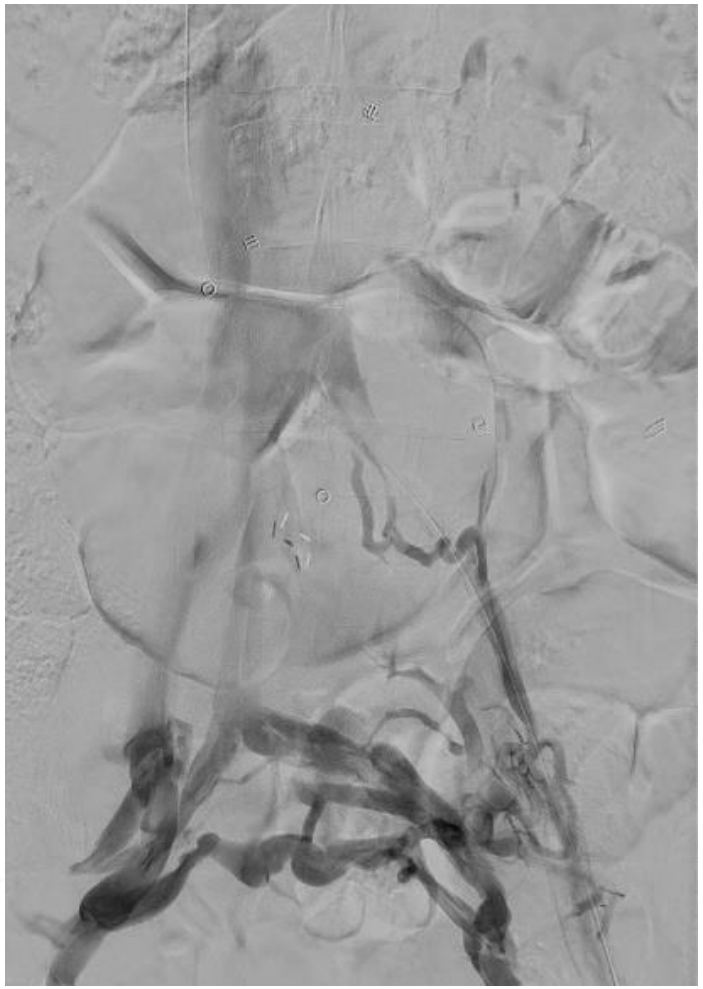
Venous Stenting





Venous stenting for Swelling: Indications

1. May-Thurner Syndrome: Compression of the left common iliac vein by the right common iliac artery, leading to venous obstruction and lower limb swelling.
2. Iliofemoral Venous Obstruction: Chronic obstruction of the iliac or femoral veins resulting in venous hypertension and edema.
3. Post-Thrombotic Syndrome: Persistent venous obstruction and reflux following deep vein thrombosis (DVT), causing chronic swelling and discomfort.
4. Severe Chronic Venous Insufficiency: Refractory symptoms of CVI, including persistent leg swelling, pain, and skin changes, despite conservative management.

Risks and Complications

- Stent migration or malpositioning.
- Stent fracture or stenosis.
- Stent thrombosis or restenosis.
- Contrast-induced nephropathy.
- Bleeding, hematoma, or infection at the access site.
- Allergic reaction to contrast dye.

References:
•Jaff MR, McMurtry MS, Archer SL, et al. Management of massive and submassive pulmonary embolism, iliofemoral deep vein thrombosis, and chronic thromboembolic pulmonary hypertension: a scientific statement from the American Heart Association. Circulation. 2011;123(16):1788-1830. doi:10.1161/CIR.0b013e318214914f
•Raju S, Neglen P. High prevalence of nonthrombotic iliac vein lesions in chronic venous disease: a permissive role in pathogenicity. J Vasc Surg. 2006;44(1):136-143. doi:10.1016/j.jvs.2006.02.055

Conclusion

- PCS and Chronic Leg Swelling are complex vascular disorders with profound implications for patient well-being.
- Assessment must be comprehensive
- There are seldom easy management strategies and a multidisciplinary approach and significant diagnostic and therapeutic consideration must be demonstrated

Questions?