

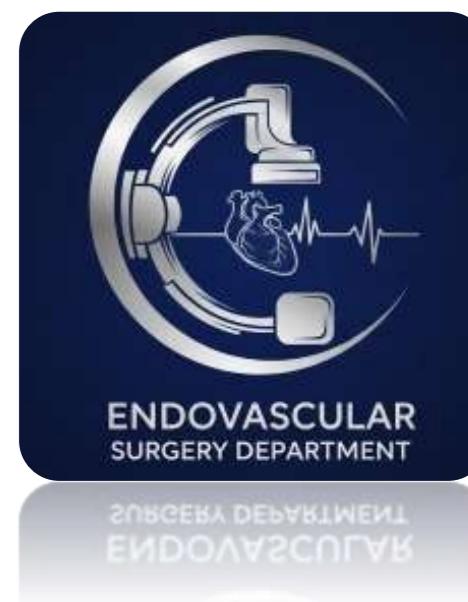


ePoster



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Retrospective Analysis of Ovarian Vein Embolization for Pelvic Venous Congestion Syndrome: A Single-Center Experience

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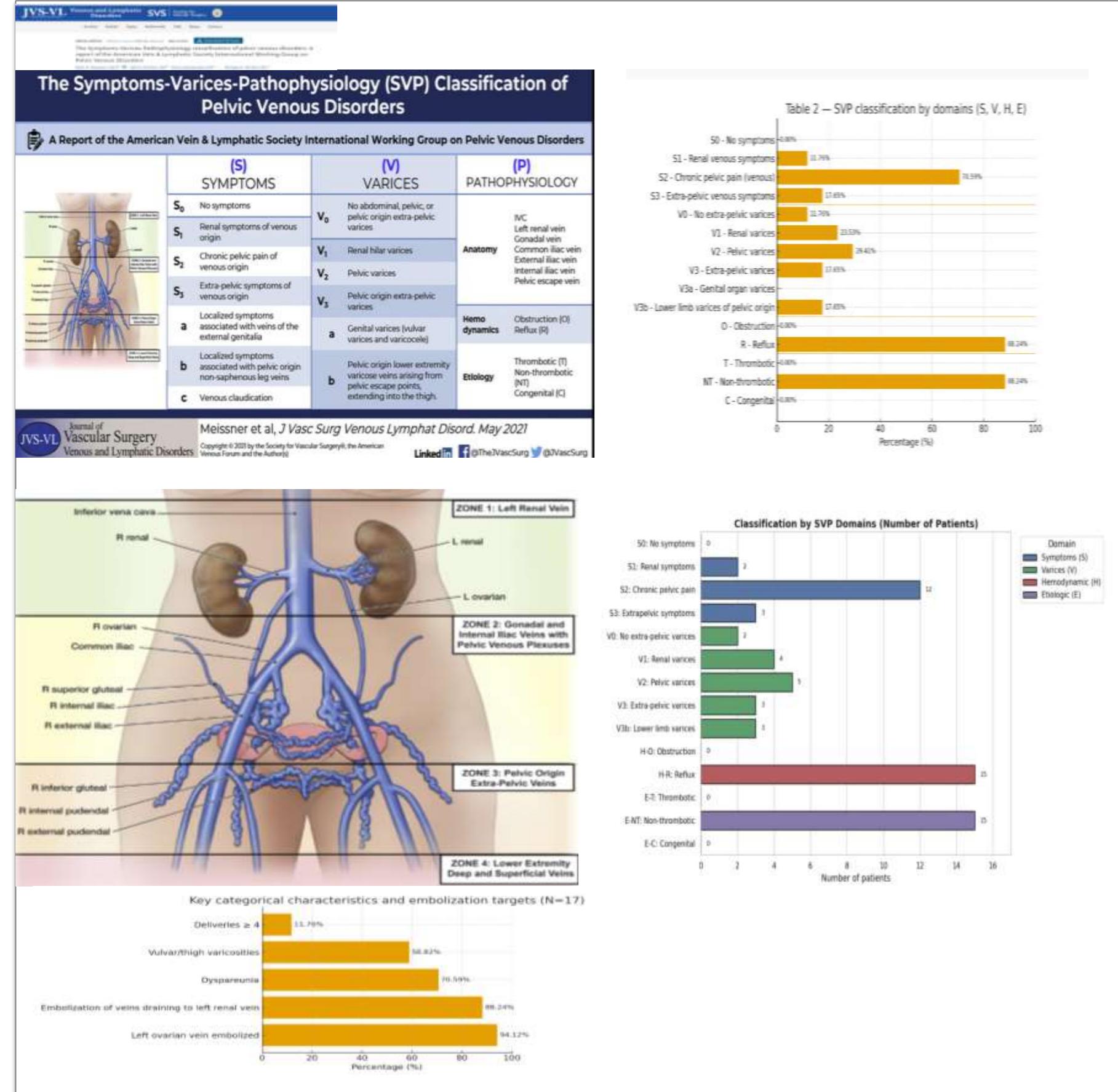
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INTRODUCTION

Pelvic venous congestion syndrome (PVCS) is an underrecognized cause of chronic pelvic pain in women of reproductive age, characterized by ovarian and pelvic venous reflux with associated varicosities. Common symptoms include pelvic heaviness, dyspareunia, and vulvar or lower limb varicose veins. Endovascular embolization is a minimally invasive and effective treatment option. However, data from Central Asia remain limited. This study evaluates the efficacy and safety of ovarian vein embolization in women with PVCS treated in Kazakhstan.

AIM To evaluate the efficacy and safety of endovascular ovarian vein embolization in women with pelvic venous congestion syndrome (PVCS) based on a single-center retrospective experience in the Republic of Kazakhstan.

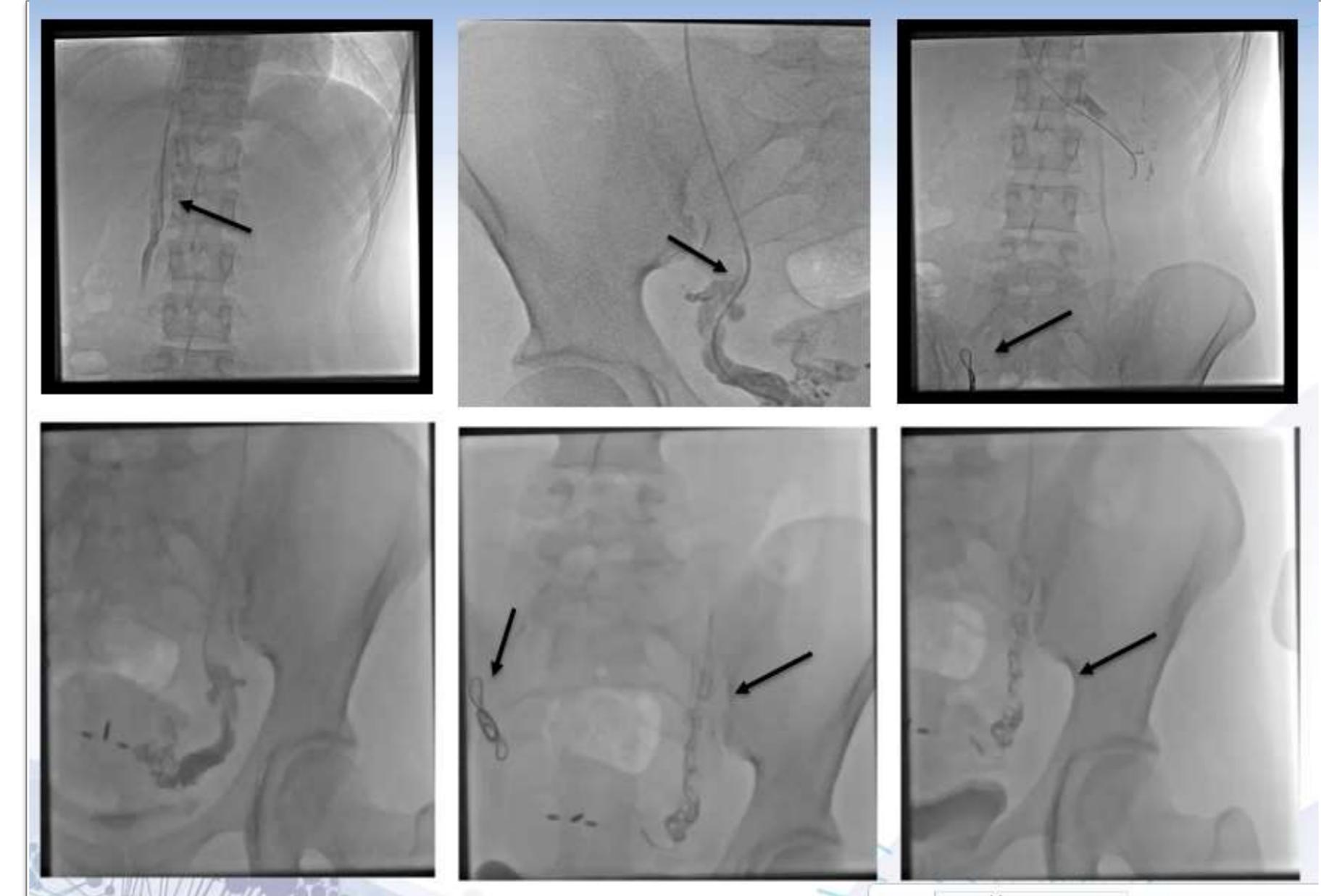
Classification of PVCS According to International Standards



METHODS

This retrospective study included 17 female patients aged 18 to 50 years with clinically and radiologically confirmed PVCS treated at the National Scientific Center of Surgery named after A.N. Syzganov (Almaty, Kazakhstan) between January 2023 and December 2024. Diagnosis was established through Doppler ultrasound, CT venography, and catheter-based pelvic phlebography. Inclusion criteria included chronic pelvic pain for more than six months, varicosity of ovarian and parametrial veins (>6 mm in diameter), and exclusion of other etiologies such as compressive syndromes or gynecological diseases.

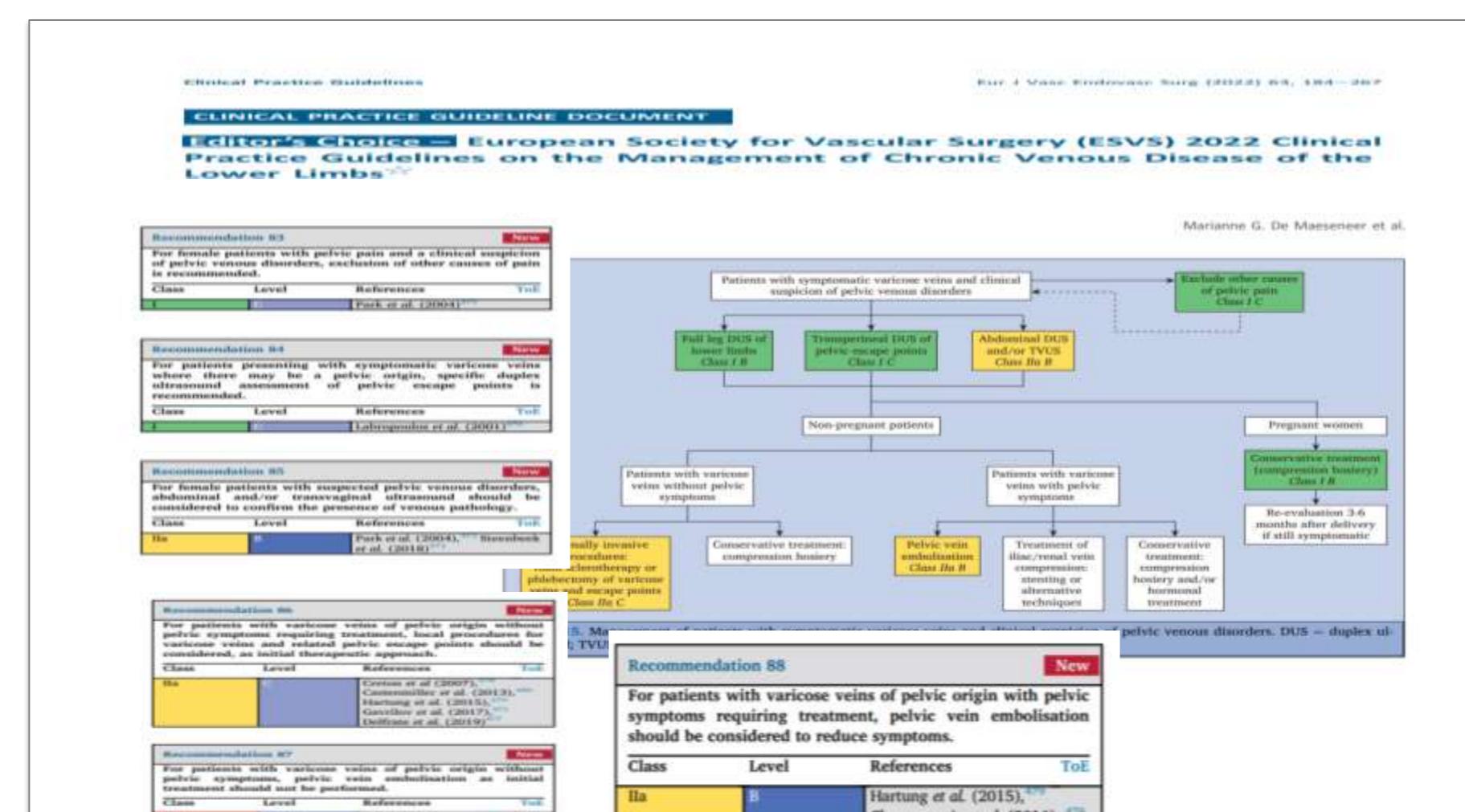
All patients underwent endovascular embolization of the ovarian veins through right femoral vein access under local anesthesia and IV sedation. Embolic materials included Terumo Azur coils and 3% polidocanol (aethoxysklerol). Control venography was performed before and after the procedure. Pain was assessed using the Visual Analog Scale (VAS) preoperatively and on day 3, 1 month, and 3 months post-procedure. The Wilcoxon signed-rank test was used to compare pre- and post-procedural VAS scores. A p-value <0.05 was considered statistically significant.



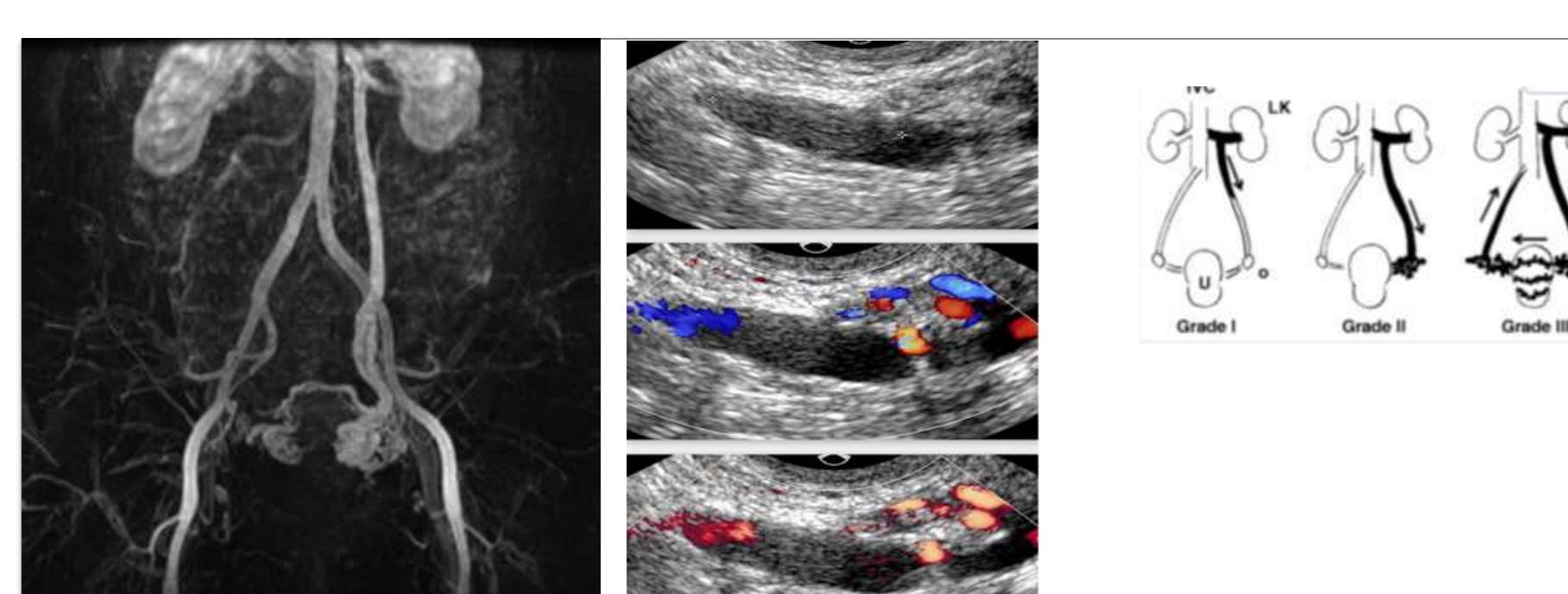
Ovaricograms of patient T.

1 — right gonadal vein before embolization; 2 — reflux of contrast medium; 3 — right gonadal vein with coils inside; 4 — left gonadal vein before embolization, reflux of contrast medium into parametrial veins; 5 — left gonadal vein with coils inside, no reflux of contrast medium distal to vein occlusion; 6 — control image.

RECOMMENDATIONS ACCORDING TO INTERNATIONAL GUIDELINES



DIAGNOSTICS



Diagnosis was based on chronic pelvic pain lasting more than six months, and confirmed by ultrasound, CT, MR venography, and pelvic phlebography, which revealed grade II-III venous reflux.

Discussion

Ovarian vein embolization achieved **100% technical success** and significantly reduced pain (VAS: 6–2; p<0.001). These results align with larger studies (De Gregorio et al. [9], Mahmoud et al. [7]), which report high success rates (84.4%–99%) and sustained symptom relief. In our cohort, **19.7%** had complete symptom resolution. Outcomes were better in patients with vulvar/thigh varicosities but poorer in those with dyspareunia [2,6]. **17.6%** required contralateral embolization, highlighting the need for comprehensive imaging [4]. Long-term follow-up is crucial due to possible recurrence [13,14]; adjunctive treatment may be needed for limb varicosities [8]. Standardized classification (e.g., SVP [5]) is recommended for optimal patient selection.

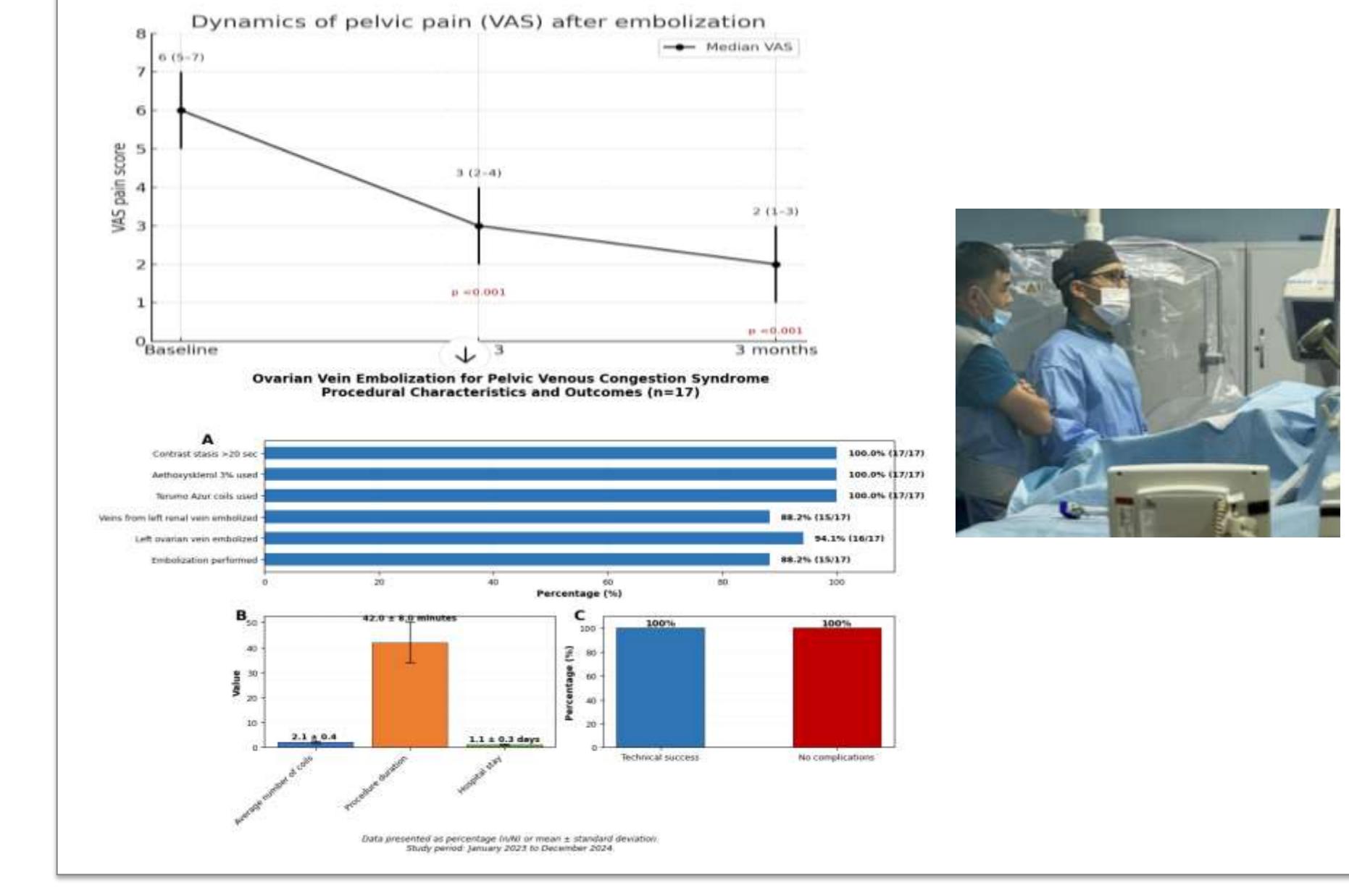
Limitations: Retrospective, single-center design; small sample (n=17); patient-reported outcomes; no control group.

RESULTS

The mean age of the patients was 37.0 ± 5.7 years, and the mean BMI was 21.7 ± 3.1 kg/m². A history of four or more childbirths was reported in 11.76% of patients. Dyspareunia was present in 70.6%, and vulvar or thigh varicosities in 58.8%.

Reflux in the left ovarian vein was observed in 94.1% of patients, and in 88.2%, additional reflux was noted in veins originating from the left renal vein. The mean procedure time was 42 ± 8 minutes. The average number of coils used per patient was 2.1. Contrast stasis >20 seconds was recorded in 100% of procedures, indicating significant pelvic venous hypertension.

Technical success (defined as the absence of reflux on post-embolization venography) was achieved in 100% of cases. No major intraoperative or postoperative complications occurred. The mean hospital stay was 1.1 ± 0.3 days. Additional embolization was required in 3 patients (17.6%) due to contralateral venous reflux. VAS scores significantly improved from a median of 6.0 (IQR 5–7) at baseline to 3.0 (IQR 2–4) on day 3 (p < 0.001) and 2.0 (IQR 1–3) at 3-month follow-up (p < 0.001). Symptom resolution (partial or complete) was reported in 82.4% of patients.



The most common vein affected was the **left ovarian vein**, treated in 94% of patients. Pain level (by VAS scale):

before embolization — median 6 points,

day 3 after embolization — median 3 points,

after 3 months — median 2 points.

This shows a **strong and stable reduction of pelvic pain**.

No serious complications were recorded.

However, in 17% of patients additional embolization was needed because of reflux from the opposite side.

In general, 82% of patients reported partial or complete disappearance of symptoms.

CONCLUSIONS

Endovascular embolization of gonadal veins is a safe and effective method for the treatment of PVCS in women, offering rapid symptom relief and minimal complication rates. The procedure is well-tolerated, reproducible, and can be performed under local anesthesia. These results underscore the need for further prospective, multicenter studies to establish standardized treatment algorithms and define optimal patient selection criteria.

BIBLIOGRAPHY

1. Dewald CL, Becker LS, Meyer BC. Interventional treatment of pelvic venous disorders. Fortschr Röntgenstr. May 2024;196(5):921–927. <https://doi.org/10.1055/a-2229-4100>
2. Basile A, Failla G, Gozzo C. Pelvic Congestion Syndrome. Semin Ultrasound CT MR. Feb 2021;42(1):3–12. <https://doi.org/10.1053/j.sut.2020.07.001>
3. Campbell B, Goodey S, Franklin I, Nyamekye I, Poskitt K. Investigation and treatment of pelvic vein reflux associated with varicose veins: Current views and practice of 100 UK vascular specialists. Phlebology. Jan 2020;35(1):56–61. <https://doi.org/10.1177/0268355519848621>
4. Khilani NN, Meissner MH, Learman LA, Gibson KD, Daniels JP, Winokur RS, Rosenblatt M. Research priorities in pelvic venous disorders in women: recommendations from a multidisciplinary research consensus panel. J Vasc Interv Radiol. Jun 2019;30(6):781–789. <https://doi.org/10.1016/j.jvir.2018.10.008>
5. Meissner MH, Khilani NM, Labropoulos N, Gasparis AP, Gibson K, Greiner M, Rosenblatt M. The Symptoms-Varices-Pathophysiology classification of pelvic venous disorders: a report of the AVLS International working group. Phlebology. May 2021;36(5):342–360. <https://doi.org/10.1016/j.phleb.2020.12.084>
6. Kashel E, Evans E, Patel N, Shaida N, Lopez A, Patel J, Majdalany B. Pelvic venous congestion syndrome: female venous congestive syndromes and endovascular treatment options. CVIR Endovasc. Apr 2023;6:25. <https://doi.org/10.1166/cvirendovasc.2023.00365-y>
7. Mahmoud O, Vilkatmaa P, Ahs P, Vennermo M, Albäck A. Efficacy of endovascular treatment for pelvic congestion syndrome. J Vasc Surg Venous Lymphat Disord. Jul 2016;4(3):355–370. <https://doi.org/10.1016/j.jvs.2016.01.002>

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