



Published By : IVAA
the Indonesian Vascular Access Association



Amplatzer vascular plug for alternate treatment in pelvic congestive syndrome in Dr. Soetomo General Hospital: A case report

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Received: 2024-01-02

Accepted: 2024-02-21

Published: 2024-03-25

ABSTRACT

Introduction: One of the common causes of chronic pelvic pain in reproductive-age women is pelvic congestion syndrome (PCS). This pain can be constant or intermittent for 3-6 months, occurring throughout the menstrual cycle, arising in the abdominal or pelvic area, and is not related to pregnancy. Complaints of chronic pelvic pain are as much as 10-20% of gynecological consultations, and only 40% of them are referred to specialists for evaluation. 10 – 60 % of PCS is caused by insufficient iliac vein, ovarica vein, or both. Incompetent ovarian vein ligation can head to a favorable result. An endovascular technique using an embolization coil, glue, foam, or amplatzer can be an alternative treatment for PCS.

Case Description: Women 50 years old whom a history of chronic pelvic pain, CT angiography showed Left ovarica vein dilatate and prominent. Durante operation, approach from a right femoral vein with a catheter to the left renal and ovarian veins. Amplatzer vascular plug was deployed at the left ovarian vein and evaluated. There wasn't insufficient. The Patient was discharged the day after the operation.

Conclusion: In conclusion, venous occlusion with vascular plug for PCS management is safe and effective with an embolization agent or surgery with a significant enhancement in pelvic symptoms for PCS.

Keywords: Pelvic congestive syndrome, Amplatzer Vascular Plug, Embolization.

Cite This Article: Raharjo, F.C., Limanto, D.H. 2024. Amplatzer vascular plug for alternate treatment in pelvic congestive syndrome in Dr. Soetomo General Hospital: A case report. *Journal of Indonesia Vascular Access* 4(1): 15-17. DOI : 10.51559/jinava.v4i1.41

INTRODUCTION

One of the common causes of chronic pelvic pain in reproductive-age women and frequently misdiagnosed is pelvic congestion syndrome (PCS). This pain can be constant or intermittent for 3-6 months, occurring throughout the menstrual cycle, arising in the abdominal or pelvic area, and is not related to pregnancy.¹ Chronic pelvic pain (CPP) is characterized as more than 6 months of persistent or intermittent pain localized in the pelvis.² Cases of CPP in women, amounting to 30-40%, are associated with PCS. Chronic pelvic pain cases contribute to 40% of outpatient gynecological visits and 40% of gynecological laparoscopic procedures. CPP cases can have physical, emotional, and quality-of-life impacts, corresponding to increased healthcare costs. Clinical symptoms of CPP occur in 10-40% of PCS cases and are reported as chronic, non-cyclic pelvic pain or heaviness, which is usually exacerbated by prolonged standing and often occurs in conjunction

with dysmenorrhea, dyspareunia, urinary urgency, and varices in the perineum or lower extremities.³ Only 40% of them are referred to specialists for evaluation.¹ Ten to sixty percent of PCSs are caused by insufficient iliac vein, ovarian vein, or both.^{4,5}

The etiology of PCS is multifactorial, involving both mechanical and hormonal factors. Mechanical factors are typically related to anatomical issues such as valve dysfunction or absence, anatomical variations, and venous kinking due to uterine malposition. Meanwhile, hormonal factors are associated with parity and menopausal status. These factors collectively contribute to venous dilatation (>5 mm) and insufficiency.⁶ PCS can be present without clinical symptoms; however, disease progression due to slow flow, inflammation, and thrombosis will result in clinical symptoms due to the emergence of pelvic varices.⁷ Many cases of PCS are undiagnosed, most likely because physicians are unfamiliar with the disease and due to its vascular

background, manifested by, among other things, gynecological symptoms.⁸ Because of the broad spectrum of symptoms, a comprehensive approach is needed to make an appropriate diagnosis.⁹ Ovarian and iliac catheter venography is the gold standard for diagnosing pelvic vascular congestion. Ligation of incompetent ovarian veins can lead to favorable results. An endovascular technique using an embolization coil, glue, foam, or amplatzer can be an alternative treatment for PCS.¹⁰

CASE DESCRIPTION

Women 50 years old whom a history of chronic pelvic pain, CT angiography showed Left ovarica vein dilatate and prominent. Durante operation, approach from a right femoral vein with a catheter to the left renalis and ovarica veins. Amplatzer vascular plug was deployed at left ovarica vein, evaluated, there wasn't insufficient. The Patient was discharged the day after operation.

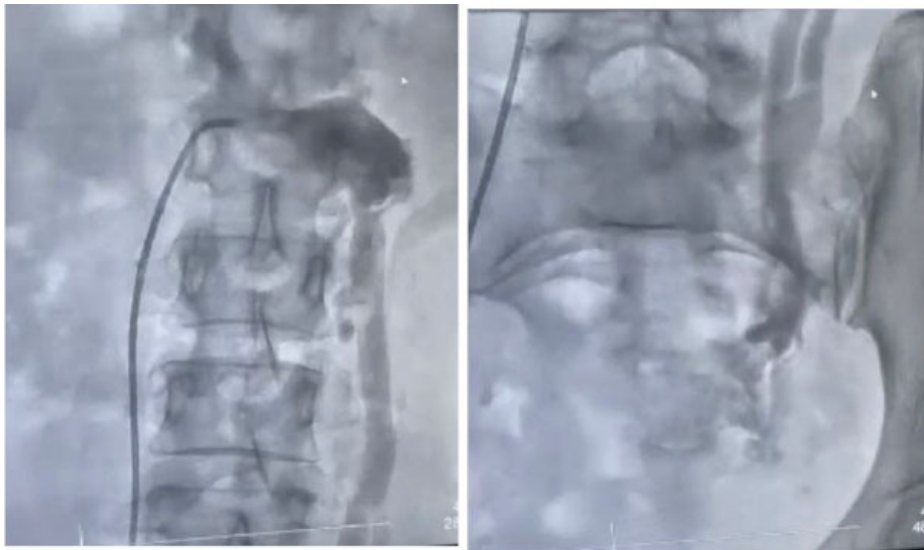


Figure 1. Venography of the Ovarica Vein. (dilated and insufficient).



Figure 2. Ovarica vein measurement before AVP has been deployed.

DISCUSSION

One of the most common chronic pelvic pain in women is pelvic congestion syndrome. It is commonly caused by vein dilatation and insufficiency. Currently, endovascular has been innovated for transcatheter pelvic veins embolization. This procedure is the most productive and least invasive management option for pelvic varicose veins.¹¹ Coil embolization has been recommended by the Society for Vascular Surgery and the American Venous Forum, plug with a grade 2B.¹² Jose et al. studies said that there are no differences in efficacy between fiber platinum coil vs. vascular plug.¹³ for long outcome few RCT study are available to compare.

This patient used 8 fr sheath from the femoral vein guided by ultrasound.

Venography to identify the inferior cava vein. The Renalis vein was visualized, guide wire went to the renalis vein and continued with JR 6 fr catheter, identifying the insufficiency. After measuring the ovarica vein, the surgeon did the embolization with AVP 14. The patient was discharged a day after surgery.

There are many options to treat the pelvic congestion syndrome. The first line of treatment for PCS should be medical treatment. Several medications that have shown effective therapeutic effects for pain in PCS are gonadotropin-releasing hormone agonists, combined oral contraceptives, danazol, phlebotomists, progestins, and non-steroidal anti-inflammatory drugs. Incompetent ovarian or pelvic vessel ligation leads to symptom improvement in nearly 75% of women. Gynecologists sometimes use bilateral

salpingo-oophorectomy and hysterectomy to treat pelvic congestion syndrome, but the results are unfavorable.¹⁴ Transcatheter embolization therapy has become the reference treatment in the PCS setting as a curative intent choice.¹⁵ Patients report symptom improvement in 93–96% of treated cases, followed by relatively good tolerability following treatment of bilateral gonadal and internal iliac vein with this modality.¹⁶ While coils use, with or without sclerotherapy, plugs, and glue, have been most commonly reported for pelvic embolization, none of the studies defined significant dissimilarity in clinical outcomes between one specific embolizing agent and another or in their combination. The risk of coils migrating to the pulmonary artery is increased with veins with a caliber more significant than 12 mm, which is one of the major complications of the procedure.¹⁷ Many studies have reported more than an 80% decrease in pelvic varicose veins and symptoms after embolization.¹⁰ A study by Kim et al. reported using sodium morrhuate and Gelfoam to treat embolization in 131 patients.¹⁸ Long-term follow-up data of 202 patients with PCS who underwent coil embolization were reported by Laborda et al.¹⁹ Through Chung et al.'s study, for removing PCS, embolization is superior to oophorectomy and hysterectomy. In the embolization group, the mean visual pain scale score decreased from 7.8 to 3.2, compared to 5.6 among patients who went through unilateral oophorectomy and 4.6 in the bilateral oophorectomy group.²⁰

CONCLUSION

Due to an improved comprehension of the underlying pathology and this experience, we suggest exploring and managing the whole pathological vein network. Endovascular might be the best option available for PCS.

DISCLOSURE

Funding

This study did not receive any funding.

Conflicts of Interest

There are no conflicts of interest from the authors.

Author Contribution

The contribution of each authors in writing this article is equal.

Ethic Approval

Ethical commission had approved the ethic of this study.

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