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Pelvic Congestion Syndrome and Medical Wandering about a Case: Literature Review

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Abstract

Pelvic varicose veins are a recurring cause of chronic pelvic pain. The heterogeneity of the symptoms can be the cause of a real medical wandering. Like any chronic painful syndrome, if untreated, pelvic congestion syndrome (PCS) can degrade patients' quality of life through psychiatric disorders such as depression and anxiety. In addition, the PCS is therefore a diagnosis of exclusion, after all other causes have been eliminated. According to literature data, venography is the gold standard, but endovaginal ultrasound coupled with doppler is a good alternative. This case report describes a 42-year-old grand multiparous woman (G9P9009) presenting with chronic pelvic pain worsening with sexual intercourse. Initial examinations including a bimanual exam, infectious workup and endovaginal ultrasound revealed: a bacterial vaginosis, urogenital mycoplasma infections and a slight fluid collection in the Douglas pouch, but no other significant findings. The patient was treated with antibiotics and anti-inflammatories for presumed chronic pelvic disease. However, her pain persisted. A diagnostic laparoscopy, performed concurrently with a requested bilateral tubal ligation, revealed pelvic varicose veins. Ligation of these varicose veins associated to venotonics treatment after the surgery resulted in a complete resolution of the patient's pelvic pain and dyspareunia. Faced with the difficulties of technical platforms in our context, in the absence of venography and endovascular embolization, we highlight the diagnostic challenges associated with pelvic congestion syndrome (PCS) and advocate for laparoscopy as a valuable diagnostic and therapeutic tool, partic-

ularly in resource-limited settings.

Keywords

Pelvic Congestion Syndrome, Pelvic Chronic Pain, Multiparity, Diagnosis, Treatment

1. Introduction

Pelvic congestion syndrome (PCS) is a form of venous insufficiency characterized by chronic pelvic pain associated with varicose veins in the pelvic and perineal regions. The intensity of the pain varies and can reach high levels of severity, significantly affecting the psychological state and quality of life of the patients. The pathophysiology of PCS seems to involve phenomena of venous flow redistribution (mechanical and hormonal factors) leading to the abnormal dilation of venous plexuses drained by the internal iliac and ovarian veins. Symptoms may also extend to the abdomen and/or lower limbs, resulting in misleading clinical presentations that can cause a true medical odyssey. Thus, PCS remains underdiagnosed, although it may account for 16 to 33% of persistent pelvic pain cases. Indeed, it remains a diagnosis of exclusion, particularly in resource-limited countries where not all imaging techniques, especially phlebography, are readily available. We report the case of a 42-year-old multiparous woman with unexplained chronic pelvic pain, whose varicose etiology was discovered during a diagnostic laparoscopy. She underwent transperitoneal ligation, resulting in symptom improvement post-operatively.

2. Case Presentation

This is a 42-year-old grand multiparous woman, G9P9009, whose youngest child is 8 months old and currently being breastfed with mixed feeding. All her deliveries were vaginal and without any complications. She presents for a gynaecological consultation due to intermittent pelvic pain that has been ongoing for more than 6 months. The pain developed progressively, varied in intensity, and worsened by sexual intercourse. There were no associated digestive issues. A cervical pap smear performed 4 years ago was normal.

During the physical examination, she was in good general health with satisfactory vital signs: Temperature = 37˚C; Blood Pressure = 118/79 mmHg; Pulse = 76 beats/minute. Her anthropometric measurements were: Weight = 100 kg, Height = 1.70 m, BMI = 34.6 kg/m^2, indicating grade I obesity. The breast examination was normal, with galactorrhea upon expression. The abdomen was not distended, with significant adipose tissue, and there was no tenderness upon lumbar percussion. The bimanual examination revealed a normally sized anteverted uterus. Furthermore, there was no pelvic organ prolapse or urinary incontinence on coughing. There was also pain upon movement of the cervix, and the examination glove

was stained with abundant, yellowish, foul-smelling leucorrhoea. The patient showed no signs of hyperandrogenism. The lower limbs had no oedema or visible signs of venous insufficiency. An infectious workup revealed bacterial vaginosis due to Gardnerella Vaginalis and a urogenital mycoplasma infection involving Mycoplasma hominis and Ureaplasma urealyticum, while the cervical pap smear showed no abnormalities. The endovaginal ultrasound was not particularly informative except for a slight fluid collection in the Douglas pouch. Following these explorations, the patient was treated for chronic pelvic disease with antibiotics (Tinidazole 2g single oral dose, Doxycycline 200mg per day for 21 days) and anti-inflammatory (Ketoprofen 100mg twice daily for 5 days). A month later, despite the treatment, the patient complained of persistent pelvic pain.

The diagnostic approach consists of gradually eliminating the causes responsible for persistent pain in our patient. The presence of dyspareunia can be suggestive of endometriosis but this pathology is very often the cause of infertility. However, this doesn't corroborate, because our patient is a large multiparous. The persistence of pelvic pain despite treated infections raises questions about the existence of adhesions. Faced to this diagnostic wandering, we proposed a laparoscopy for a global exploration and to ligate the tubes by placing clips (Figure 1 & Figure 2).

Figure 1. Discovery of pelvic varicose veins during diagnostic laparoscopy.

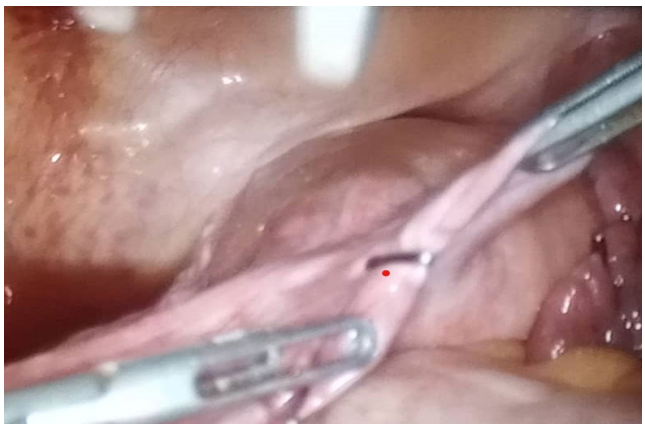

Figure 2. Bilateral tubal ligation using CLIPS.

3. Discussion

Pelvic congestion syndrome (PCS) is the second leading cause of chronic pelvic pain in women, following endometriosis [1]. This syndrome is underdiagnosed, and its prevalence varies according to different authors, being estimated at 4 to 30% [2]. Numerous risk factors have been described in the literature, including multiparity, perimenopause, personal or family history of venous insufficiency, hormonal disorders such as polycystic ovary syndrome, and a history of pelvic surgery [3] [4].

The pathophysiology of pelvic congestion syndrome (PCS) involves mechanical and hormonal factors contributing to incontinence and dilation of the pelvic veins, either of primary or secondary origin. Primary venous insufficiency is due to the absence of venous valves or valve incompetence. In these patients, the congenital absence of ovarian valves has been reported in 6% of patients on the right side and 13% to 15% on the left side. Incompetent valves are present in 35% to 46% of women on the right and 41% to 43% on the left [5]. The predisposition of multiparous women to develop PCS can be attributed to a 50% increase in the capacity of pelvic veins due to physiological changes during pregnancy [6]. These veins can dilate up to 60 times their normal size, leading to retrograde blood flow and valve incompetence. The accumulation of blood in the pelvic and ovarian veins can lead to further engorgement and exert pressure on the surrounding nerves, which collectively contributes to pelvic pain. It has also been shown that oestrogen levels are significantly higher in varicose veins than in healthy veins, and fluctuations in oestrogen levels affect nociceptive sensitivity. Oestrogens act by releasing nitric oxide, which causes vein weakening and dilation, while progesterone weakens the venous valves. Together, these factors promote the incompetence of ovarian and pelvic veins, leading to subsequent reflux [7]. Even six months after pregnancy, these vascular changes can persist. Secondary venous insufficiency is due to extrinsic compression causing obstruction of venous outflow. When the left renal vein is compressed between the abdominal aorta and the superior mesenteric artery (anterior nutcracker syndrome), compression can also result from a retro-aortic course of the left renal vein (posterior nutcracker syndrome) or an elongation of the renal vein over the abdominal aorta [6] [8]. Similarly, compression of the left common iliac vein by the right internal iliac artery in May-Thurner syndrome can also lead to such outcomes [9].

Clinically, the condition is largely dominated by pain. Typically, it involves non-cyclic pelvic pain lasting more than six months. It typically occurs later in the day and is aggravated by prolonged standing or sitting, defecation, and the Valsalva maneuver [10] [11]. Although deep dyspareunia is common in women with pelvic pain of various origins, those of venous origin are likely to be associated with prolonged postcoital pain. Symptoms of an irritable bladder, such as dysuria and urgency, may also be observed. In women, symptoms related to reflux can include pain, itching, bleeding, and superficial venous thrombosis associated with non-saphenous varicosities. These can be located on the vulva or on the pos-

terior-internal part of the thigh in the distribution of perineal and lower buttock exit points. However, the absence of varices in these areas does not rule out the presence of PCS, as exemplified by our patient, whose physical examination revealed no varices. A history of vulvar varices during pregnancies should be investigated. The combination of a history of dyspareunia and pain upon bimanual palpation of the ovarian point (the junction of the upper and middle thirds of a line drawn from the umbilicus to the anterior superior iliac spine) has been shown to have a sensitivity of 94% and a specificity of 77% for distinguishing a venous origin from other causes of pelvic pain [6] [12].

In most cases, PCS will be considered after eliminating other causes of abdominal-pelvic pain, and despite the diversity of clinical signs, only morphological explorations will confirm this condition. Phlebography is the gold standard for diagnosing pelvic congestion. The ovarian veins are catheterized via the percutaneous jugular and femoral routes [5], providing a detailed map of the pelvic venous plexuses. Endovaginal ultrasound combined with Doppler is the initial examination of choice because it offers better visualization (100% sensitivity) of the pelvic venous plexuses. In contrast, the patient's morphology (obesity) or the presence of non-displaceable intestinal gases influences the quality of trans-abdominal ultrasound in cases of PCS. Conversely, more central involvement (at the level of the renal or common iliac veins) is better assessed with trans-abdominal ultrasound [13] [14]. There is currently no consensus on the optimal diameter threshold for dilated veins in PCS. CT scans expose patients to radiation and have low specificity. Unlike ultrasound, CT does not provide information on the hemodynamic changes in pelvic veins. Magnetic resonance imaging (MRI) has the advantage of being free from radiation. However, it is performed in a supine position, which leads to insufficient filling of varices, limiting its use [5]. In our context, CT, MRI, and phlebography are not readily available and are very expensive. On the other hand, endovaginal ultrasound combined with Doppler is feasible, but it has disadvantages, such as false positives (dilated veins without clinical symptoms), false negatives (limited by the supine position), and operator dependency.

Therefore, for us, laparoscopy is an alternative that offers several advantages, including the confirmation of the PCS diagnosis and comprehensive exploration of the abdominal and pelvic cavities, which is an excellent means of investigating other pathologies responsible for chronic pelvic pain. Additionally, laparoscopy allows for therapeutic intervention once varices have been visualized. Transperitoneal ligation of the ovarian veins yields favourable results in 75% of women [5]. The combination of venotonics (Daflon) with the ligation of varicose veins has shown effectiveness in alleviating symptoms, as seen in our patient. This underscores the importance of conducting systematic studies that consider the realities of our context.

Embolization is considered the best therapeutic option for PCS; however, this opinion is based on empirical data rather than clinical trials. The broadest consensus emerging from systematic studies conducted is the necessity for robust randomized controlled trials [15].

4. Conclusion

Pelvic congestion syndrome is a true diagnostic and therapeutic challenge. The related medical odyssey and lack of adequate management can lead to a deterioration in quality of life and psychiatric disorders such as depression and anxiety. There is no classic clinical presentation that can easily guide us, but it is important to consider and investigate it in cases of unexplained chronic pelvic pain. In resource-limited settings, certain imaging techniques, like phlebography, are unavailable and interventional radiology is not widely practiced. Therefore, laparoscopy is an excellent means for confirming the diagnosis of PCS, ruling out other pathologies that might cause chronic pelvic pain, and performing therapeutic interventions.

Authors' Contributions

Michèle Florence Mendoua + Astrid Ndolo Kondo + Yves-Martin Ahanda Assiga: surgery, literature review, writing;

Junie Ngaha Mbondja + Bilkissou Moustapha + Yann Chris Mannel Eng: proofreading;

Charlotte Tchente Nguefack + Emile Mboudou: supervision.

Ethical Standards

In order to ensure the ethical standards, we confirmed that an informed consent was obtained from the patient for reporting this case.

Conflicts of Interest

The authors declare no conflict of interest.

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