A Case Report and Review of the Literature

Pelvic congestion syndrome

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Pelvic congestion syndrome (PCS) is a well described, but frequently overlooked cause of chronic pelvic pain. It is manifested by pelvic pain of variable intensity that is aggravated by prolonged standing, fatigue, menstruation or intercourse. Although the condition has been described since the middle of the nineteenth century, the exact cause of the condition is not fully understood. Recent advances in imaging and laparoscopy have helped in achieving an accurate diagnosis. Surgical procedures are not always helpful in managing cases of pelvic varices. The most recent breakthrough has been the management of gonadal varicosities by an embolization technique. This case was first suspected following a pelvic ultrasound study. The diagnosis was confirmed by venography and embolization was performed in the Radiology Department. This treatment modality is the first ever in the Kingdom of Bahrain. It shows specialized skills can satisfactorily cure a hitherto difficult disease with simple minimally invasive techniques.

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Introduction and Background

Richet first described Tuboovarian varicocele in 1857[1]. Since then, clinicians have described pelvic pain in women with this condition with increasing frequency. In 1949 Taylor[2] introduced the term pelvic congestion syndrome (PCS), which consists of pelvic pain, dyspareunia, dysmenorrhea, dysuria and vulval congestion with or without varices.

In 1954, Taylor[3] suggested that the emotional stress could lead to autonomic nervous system dysfunction manifested as smooth muscle spasm and congestion of the veins draining the ovaries and the uterus. Other specific anatomical and pathological causes of PCS, such as the so-called "nutcracker syndrome" which is the compression of the left renal vein between the abdominal aorta and the superior mesenteric artery, was first described by El Sadr and Mina in 1950[4].

Genetic predisposition, broad ligament varices, hypogastric vein reflux, arterio-venous shunt, venous valve incompetences[5-7], surgical operations such as nephrectomy or renal transplant could also result in this condition[8-9]. Hormonal changes have been implicated, as most cases occur in premenopausal women. Other associated problems with PCS, such as the higher incidence of ovarian cysts, enlarged uterus, and thickened endometrium all point to hormonal causes for this condition. Physiological and hormonal changes during pregnancy and also frequent childbirth have been implicated as causes of pelvic varices[10]. To complicate this matter even further it has been

found by magnetic resonance (MRI) studies that 7.7% of asymptomatic men and women have gonadal and pelvic varices[11].

Non-organic causes such as underdeveloped sexual orgasm during intercourse[12], and psychiatric conditions have also been cited as etiological factors[13]. The recent advances in the investigative procedures have enabled clinicians to do more thorough tests[14-16].

The treatment of these syndromes has not been uniform and despite all the new surgical and interventional methodologies, the relief of symptoms is not always complete. Occasionally there is no change in the pain even after ligation of the gonadal vein, use of sclerosing material, or embolization. The objective of this paper is to review the history of PCS, and to analyze our experience with the first-ever case treated with gonadal vein coil embolization in the Kingdom of Bahrain.

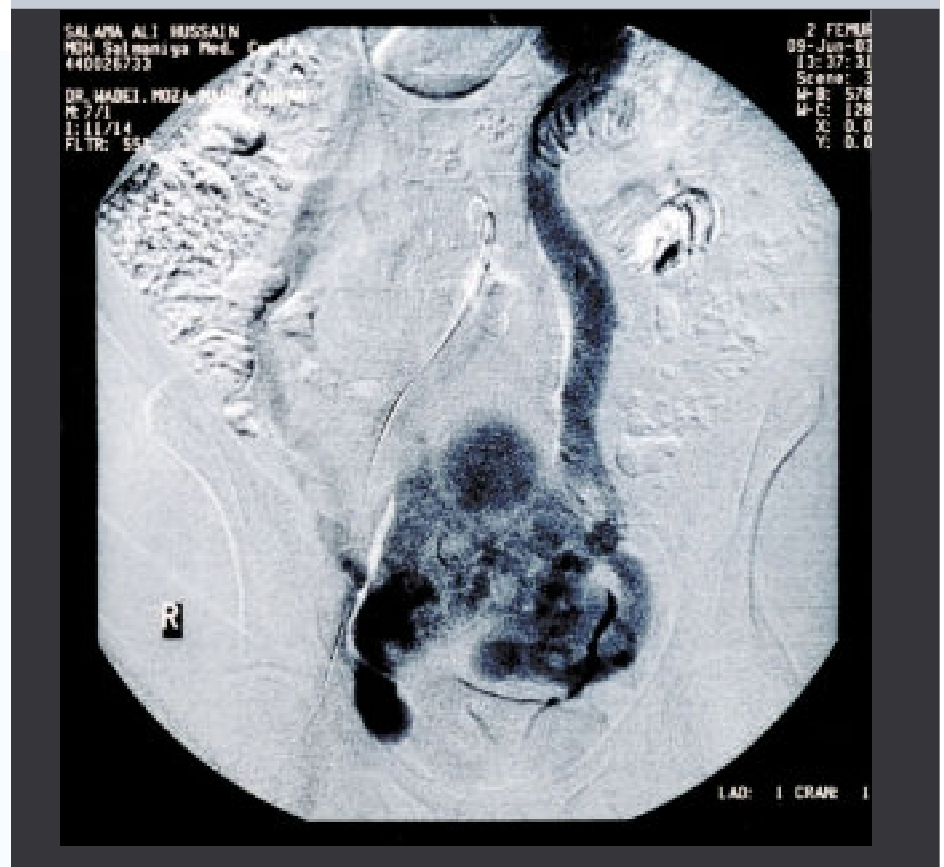

Figure 1 - *Venogram of left pelvic varices*

Case Report

A 59-year old postmenopausal Bahraini woman (G10, P10, Ab0) was referred from Naim Health Center to the Salmaniya Medical Complex gynecological clinic with a history of right flank pain of over one year's duration. The pain was recurrent, variable in severity, but localized with no radiation. There were no other symptoms.

The menopause had occurred two years earlier and there was no post menopausal bleeding or discharge. All her children had been born normally - the youngest being 18 years old. The last delivery was followed by sterilization. She was known to have controlled type II diabetes, and was taking tab glibenclamide one bid, and tab metforemin 500 mg once daily. She had no other previous history of serious medical or surgical conditions. Pelvic ultrasound revealed dilated vessels on the surface of the uterus. KUB X-ray was normal. The CBCs, clotting profile, and urea and electrolytes were all normal.

A urological consultation was made, but after investigations no urinary problem was found. Examination of the cardiovascular, respiratory, gastrointestinal and the central nervous systems revealed no abnormalities. The pelvic examination showed a cervical polyp and bulky uterus. There was no adnexal mass. A high vaginal swab examination showed evidence of bacterial vaginosis. Tumor markers were negative. Another pelvic ultrasound was performed and this revealed left ovarian dilated vessels, and that both kidneys and uterus were normal. In view of these findings she was advised to undergo pelvic venography and an MRI.

Discussion

Approximately 15% of women between the ages of 20 – 50 years have experienced pelvic congestion, but not all experience the symptoms. The condition is very rarely seen in post-menopausal women.

It is imperative to distinguish patients who have chronic pelvic pain which does not have an obvious cause such as endometriosis, fibroids, uterine prolapse, and inflammation in those who have gonadal varices.

The diagnosis until recently has not been easy and as a result some women were misdiagnosed or under-treated. Many women with this condition have been referred for counseling on the basis that their complaints were psychosomatic or caused by stress. Others with PCS may have received treatment for a variety of other causes of pelvic pain such as endometriosis, pelvic inflammation, fibroid or even varicose veins in the leg.

Currently, with the availability of modern diagnostic methods such as colored Doppler, pelvic ultrasound, pelvic venography, MRI and laparoscopy, facilitating the diagnosis of pelvic varices, the condition has become more definable. The recent increased awareness of this pathology has also contributed to the establishment of various help groups in North America; on-line consultations, web-sites, national societies and the International Pelvic Pain Syndrome Associations (IPPS).

The exact cause of PCS is still unknown, but several theories have been postulated.

1. Anatomic Theory:

Successive pregnancies make the valve of the gonadal veins vulnerable to incompetence. This causes the veins to dilate and the blood to pool in the non-pregnant state.

2. Hormonal Theory:

An important characteristic of women with PCS is that they are mostly pre-menopausal. Many cases are also associated with uterine enlargement, endometrial hyperplasia and polycystic ovaries. All these conditions point to a hormonal basis for PCS.

As far as the treatment is concerned, unexplained chronic pelvic pain has been treated medically with analgesics, hormonal therapy and psychological or psychiatric counseling. One fourth of all women with chronic pain or PCS have had a hysterectomy which does not solve the problem.

Since the mid 1980s ovarian vein embolization has been performed by interventional radiologists with approximately 80% success. The procedure is technically easy and can even be done on outpatient basis.

Our case was referred to the Gynecological clinic one year earlier with unexplained intermittent pelvic pain and dispareunia of one year duration. She was postmenopausal which was unusual in this condition. Assessment revealed a bulky uterus with cervical polyps. She had a diagnostic curettage and polypectomy to exclude any underlying malignancy. The result was negative, but she continued to have bouts of pelvic pain. She was referred to the Urology and Vascular Surgery Departments for consultation, but no surgical or urological problems were found. She was also seen by a psychiatrist who failed to find any psychosomatic or psychiatric grounds for her complaints.

It was only following a pelvic ultrasound that the possibility of pelvic varices was suspected. MRI and venography subsequently confirmed the diagnosis. The patient underwent embolization of both ovarian veins as a hospital day case with satisfactory results. She returned to the clinic after six weeks free of symptoms.

Conclusions

This is the first case of PCS treated with embolization in Bahrain. The procedure is simple and satisfactory. The combination of careful assessment of PCS patients with modern diagnostic techniques and the availability of interventional radiology promise aid in the management of an old debilitating and challenging condition with a simple approach.

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