Laparoscopic treatment of ovarian vein syndrome: A case series

Wisseem Hmida, Mouna Ben Othmen, Faouzi Mallat, Sidiya Oued Chavey, Mehdi Jaidane, Faouzi Mosbah

ABSTRACT

Introduction: Ovarian vein syndrome is a rare entity of ureteral obstruction. Its pathogeny and clinical expression are highly polymorphic. The treatment gains great advances because of the development of laparoscopy.

Case Series: We reported two cases of ovarian vein syndrome occurring in two multiparous women, with unremarkable past medical history. The patients were presented with isolated right flank pain. The diagnosis was confirmed by computed tomography angiography in the two cases. Ovarian vein ligation was successfully performed throughout a retroperitoneoscopic approach with excellent outcomes.

Conclusion: The ovarian vein syndrome continues to be a rare diagnosis that should be recognized. The diagnosis is mainly urographic. Owing to its simplicity, low morbidity, and good results attained, the laparoscopic approach will continue to advance the surgical management of ovarian vein syndrome.

International Journal of Case Reports and Images (IJCRI)

International Journal of Case Reports and Images (IJCRI) is an international, peer reviewed, monthly, open access, online journal, publishing high-quality, articles in all areas of basic medical sciences and clinical specialties.

Aim of IJCRI is to encourage the publication of new information by providing a platform for reporting of unique, unusual and rare cases which enhance understanding of disease process, its diagnosis, management and clinico-pathologic correlations.

IJCRI publishes Review Articles, Case Series, Case Reports, Case in Images, Clinical Images and Letters to Editor.

Website: www.ijcasereportsandimages.com

CASE SERIES

OPEN ACCESS

Laparoscopic treatment of ovarian vein syndrome: A case series

Wissem Hmida, Mouna Ben Othmen, Faouzi Mallat, Sidiya Oueld Chavey,
Mehdi Jaidane, Faouzi Mosbah

ABSTRACT

Introduction: Ovarian vein syndrome is a rare entity of ureteral obstruction. Its pathogeny and clinical expression are highly polymorphic. The treatment gains great advances because of the development of laparoscopy. **Case Series:** We reported two cases of ovarian vein syndrome occurring in two multiparous women, with unremarkable past medical history. The patients were presented with isolated right flank pain. The diagnosis was confirmed by computed tomography angiography in the two cases. Ovarian vein ligation was successfully performed throughout a retroperitoneoscopic approach with excellent outcomes. **Conclusion:** The ovarian vein syndrome continues to be a rare diagnosis that should be recognized. The diagnosis is mainly urographic. Owing to its simplicity, low morbidity, and good results attained, the laparoscopic approach will continue to advance the surgical management of ovarian vein syndrome.

Keywords: Ovarian vein syndrome, Urographic, Laparoscopic approach

How to cite this article

Hmida W, Othmen MB, Mallat F, Chavey SO, Jaidane M, Mosbah F. Laparoscopic treatment of ovarian vein syndrome: A case series. Int J Case Rep Images 2014;5(11):739–743.

doi:10.5348/ijcri-201461-CS-10047

INTRODUCTION

Ovarian vein syndrome is an uncommon cause of ureteral obstruction caused by an aberrant dilated ovarian vein [1]. It is a poorly understood clinic-pathological condition first described in 1964 [2]. Typically occurring in young multiparous woman with a right-sided predilection. The symptoms are non-specific including acute or chronic lumbar pain. The diagnosis is urographic. The treatment gains great advances because of the development of laparoscopy.

CASE SERIES

We reported two cases of ovarian vein syndrome treated by laparoscopic approach.

Case 1: A 43-year-old female with obstetric history of three gestations, presented with a 24-month history of recurrent right flank pain. She denied having a history of gross hematuria or urinary tract infection. On physical examination, BMI was at 17. Laboratory tests revealed a creatinine 90 $\mu\text{mol/L}$. The urine analysis was normal.

Ultrasound followed by computed tomography (Figure 1) showed a moderate dilatation of the right upper urinary tract and confirmed the diagnosis of right ovarian vein syndrome.

Through a retroperitoneoscopic approach, the ovarian vein was dissected, ligated and resected. The mean operating time was one hour. Preoperative and

Wissem Hmida¹, Mouna Ben Othmen¹, Faouzi Mallat¹, Sidiya Oueld Chavey², Mehdi Jaidane³, Faouzi Mosbah³

Affiliations: ¹MD, Urology Department, Sahloul Hospital, Sousse, Tunisia; ²MD, Radiology Department, Sahloul Hospital, Sousse, Tunisia; ³Professor, Urology Department, Sahloul Hospital, Sousse, Tunisia.

Corresponding Author: Dr. Wissem Hmida, Department of Urology, Hospital of Sahloul, Sousse, Tunisia; Tel: 0021698452331; Email: wisshm@yahoo.fr

Received: 11 April 2014

Accepted: 24 May 2014

Published: 01 November 2014

Figure 1: Computed tomography scan showing a compression of the ureter (yellow arrow) by a dilated ovarian vein (red arrow).

postoperative period were uneventful, and the patient was discharged after 48 hours of surgery.

In a follow-up of nine months the patient remained asymptomatic. Urine cultures repeated every three months were negative and there were no radiologic signs of ureteral obstruction.

Case 2: A 38-year-old female with obstetric history of two gestations, presented with a nine-month history of recurrent right lumbar pain. She reported that the pain was exacerbated in premenstrual period, but she did not have any history of hematuria or urinary tract infection. The physical examination did not reveal any abnormality. Laboratory tests showed a negative urine culture and a creatinine value of 65 $\mu\text{mol/L}$.

Imaging investigations showed moderate dilation of upper right urinary tract. The diagnosis was confirmed by computed tomography angiography revealing the compression of the right ureter by a dilated ovarian vein measuring 9 mm in diameter.

The patient underwent a ligation of ovarian vein throughout a retroperitoneoscopic approach. The procedure was successfully performed and the mean operating time was 55 minutes. Postoperative outcomes were good and the patient was discharged after 48 hours. In a follow-up of two years, the patient was asymptomatic with resolution of obstruction in radiologic finding.

DISCUSSION

Ovarian vein syndrome is a rare cause of ureteral obstruction [1]. In 1964, Clark reported a series of 129 right-sided ovarian vein syndromes. Many authors have published case reports of the ovarian vein syndrome, but the largest study includes only eight cases [2]. It is classically described on the right side in 95% of cases [3, 4].

The pathophysiology of ovarian vein syndrome is still poorly understood. Several mechanisms have been

suggested [2], mainly a ureteral compression by an aberrant ovarian vein draining into the right renal vein, hormonal changes associated with pregnancy may also explain ovarian vein syndrome [2, 5, 6]. It is probably a multifactorial syndrome [7].

The symptoms appear frequently in multiparous women, but have been also described in nulliparous women and children [2, 8–12]. The clinical features have no specificity including an acute or chronic lumbar pain, recurrent urinary tract infection, and frank hematuria [2, 9, 13]. Typically, the pain is exacerbated in premenstrual period or during pregnancy [7, 4]. In this cases, the two patients were presented with isolated right lumbar pain; one of the exacerbated in premenstrual period.

A careful preoperative evaluation must be required to eliminate other ureteral obstruction causes such as tumor compression and retroperitoneal fibrosis [1]. That is why some radiological examinations were indicated to confirm the diagnosis of ovarian vein syndrome [4]. The abdominal ultrasound showed generally moderate dilatation of the upper urinary tract. Transvaginal ultrasound can reveal dilated ovarian veins [7].

The gold standard for diagnosis was intravenous urography showing typically dilation and tortuosity of upper ureter with transverse defect at L3/L4 level [2, 7].

The computed tomography angiography revealed the crossing ovarian vein and excludes other causes of ureteral compression such as tumor compression retroperitoneal fibrosis [8].

In the case of our patients, the diagnosis was confirmed by computed tomography angiography.

Various management options for ovarian vein syndrome have been described; including conservative measures (medical treatment and embolization), and surgical excision, which represent the radical treatment of this entity [14].

Traditionally, ligation of ovarian vein has been performed through an open surgery. However, the laparoscopic approach has gained traction since the first report of transperitoneal laparoscopic ovarian vein ligation published by Elashry et al. in 1996.

The laparoscopic treatment, as a minimally invasive alternative to the open surgery [8]. It had progressed well recently to involve use of retroperitoneoscopic approach [2]. It had proven to be a valuable technique, offering superior visualization of the operative field. It permits careful assessment of the periureteral anatomy and identification of the ovarian vein [1].

It may limit the risk of hemorrhagic complications [1], reducing postoperative pain and analgesic requirement improvement in convalescence time and patient outcomes [1, 8, 15, 16]. As seen in these cases, the ligation of the ovarian vein and ureteral dissection by retroperitoneoscopic approach was easy, with an excellent immediate and long-term outcomes and the patients being discharged after a short hospital stay.

CONCLUSION

The ovarian vein syndrome continues to be a rare diagnosis that should be recognized. The diagnosis is mainly urographic. Owing to its simplicity, low morbidity, and good results attained, the retroperitoneoscopic approach will continue to advance the surgical management of ovarian vein syndrome.

Acknowledgements

We are grateful to Pr. Faouzi Mosbah for his comments on the manuscript.

Author Contributions

Wissem Hmida – Substantial contributions to conception and design, Acquisition of data, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be published

Mouna Ben Othmen – Substantial contributions to conception and design, Acquisition of data, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be published

Faouzi Mallat – Substantial contributions to conception and design, Acquisition of data, Drafting the article, Final approval of the version to be published

Sidiya Ouelid Chavey – Substantial contributions to conception and design, Acquisition of data, Drafting the article, Final approval of the version to be published

Mehdi Jaidane – Substantial contributions to conception and design, Acquisition of data, Drafting the article, Final approval of the version to be published

Faouzi Mosbah – Substantial contributions to conception and design, Acquisition of data, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be published

Guarantor

The corresponding author is the guarantor of submission.

Conflict of Interest

Authors declare no conflict of interest.

Copyright

© 2014 Wissem Hmida et al. This article is distributed under the terms of Creative Commons Attribution License which permits unrestricted use, distribution and reproduction in any medium provided the original author(s) and original publisher are properly credited. Please see the copyright policy on the journal website for more information.

REFERENCES

1. Gettman MT, Lotan Y, Cadeddu J. Laparoscopic treatment of ovarian vein syndrome. *JSLs* 2003 Jul-Sep;7(3):257–60.

2. Bhutta HY, Walsh SR, Tang TY, Walsh CA, Clarke JM. Ovarian vein syndrome: A review. *Int J Surg* 2009 Dec;7(6):516–20.
3. Ameer A, Lezrek M, Boumdin H, Jira H, Beddouch A, Abbar M. Right ovarian vein syndrome: Report of a case and review of the literature. *Ann Urol (Paris)* 2002 Dec;36(6):368–71. [Article in French].
4. Montagnac R, Schillinger F, Schillinger D, Milcent T. Ovarian vein syndrome. *Rev Fr Gynecol Obstet* 1989 Jan;84(1):11–4. [Article in French].
5. Arvis G. Right ovarian vein syndrome. *Ann Urol (Paris)* 1985;19(1):65–6. [Article in French].
6. Melnick GS, Bramwit DN. Bilateral ovarian vein syndrome. *Am J Roentgenol Radium Ther Nucl Med* 1971 Nov;113(3):509–17.
7. El harrech Y, Janane A, Ammani A, et al. Le syndrome de la veine ovarienne à propos de 4 cas. *J marocurolog* 2006;3:22–6.
8. Almeida A, Cavalcanti F, Barbosa S, Cohen R, Medeiros A. Laparoscopic approach in the ovarian vein syndrome. *Int Braz J Urol* 2003 Jan-Feb;29(1):45–7.
9. Tourné G, Ducroux A, Bourbon M, Blinding H. The ovarian vein syndrome: Eight cases and review of the literature. *J Gynecol Obstet Biol Reprod (Paris)* 2002 Sep;31(5):471–7. [Article in French].
10. Clark JC. The right ovarian vein syndrome clinical urography. *An Atlas and text book of roentgen logical diagnosis* 1964;2:1226–7.
11. Murano GB, Pecort M, Lucianil. Le syndrome de la veine ovarienne. Valeur du traitement chirurgical. (À propos de 7 cas). *Ann Urol* 1982;16:133–7.
12. Mathis BV, Miller JS, Lukens ML, Paluzzi MW. Pelvic congestion syndrome: A new approach to an unusual problem. *Am Surg* 1995 Nov;61(11):1016–8.
13. Ignacio-Morales César V, Aragón-Tovar Anel R, Rosales-Rocha Guillermo E, et al. Pielonefritis en fisisematosis secundaria a síndrome de vena ovárica bilateral. *Rev Mex Urol* 2012;72(4):207–10.
14. Badger WJ, De EJ, Kaufman RP Jr. Robotically assisted excision of ovarian vein for intermittent ureteral obstruction. *JSLs* 2008 Apr-Jun;12(2):166–8.
15. Del Valle González N, Estébanez Zarranz J, Escudero Caro T, et al. Laparoscopic treatment of ovarian vein syndrome. *Actas Urol Esp* 2006 Jan;30(1):85–9. [Article in Spanish].
16. Sato F, Nomura T, Shin T, et al. Retroperitoneoscopic treatment of ovarian vein syndrome. *J Laparoendosc Adv Surg Tech A* 2008 Oct;18(5):739–42.

ABOUT THE AUTHORS

Article citation: Hmida W, Othmen MB, Mallat F, Chavey SO, Jaidane M, Mosbah F. Laparoscopic treatment of ovarian vein syndrome: A case series. Int J Case Rep Images 2014;5(11):739–743.

Wissem Hmida is Assistant Professor at Department of Urology and kidney transplantation, Sahloul Hospital, Sousse, Tunisia . His research interests include laparoscopy and kidney transplantation.
Email: wisshm@yahoo.fr

Mouna Ben Othmen is MD, Urology Department, Sahloul Hospital, Sousse, Tunisia.

Faouzi Mallat is MD, Urology Department, Sahloul Hospital, Sousse, Tunisia.

Sidiya Oued Chavey is MD, Radiology Department, Sahloul Hospital, Sousse, Tunisia

Mehdi Jaidane is Professor, Urology Department, Sahloul Hospital, Sousse, Tunisia.

Faouzi Mosbah is Professor, Urology Department, Sahloul Hospital, Sousse, Tunisia.

Access full text article on
other devices

Access PDF of article on
other devices

Edorium Journals: An introduction

Edorium Journals Team

About Edorium Journals

Edorium Journals is a publisher of high-quality, open access, international scholarly journals covering subjects in basic sciences and clinical specialties and subspecialties.

Invitation for article submission

We sincerely invite you to submit your valuable research for publication to Edorium Journals.

But why should you publish with Edorium Journals?

In less than 10 words - we give you what no one does.

Vision of being the best

We have the vision of making our journals the best and the most authoritative journals in their respective specialties. We are working towards this goal every day of every week of every month of every year.

Exceptional services

We care for you, your work and your time. Our efficient, personalized and courteous services are a testimony to this.

Editorial Review

All manuscripts submitted to Edorium Journals undergo pre-processing review, first editorial review, peer review, second editorial review and finally third editorial review.

Peer Review

All manuscripts submitted to Edorium Journals undergo anonymous, double-blind, external peer review.

Early View version

Early View version of your manuscript will be published in the journal within 72 hours of final acceptance.

Manuscript status

From submission to publication of your article you will get regular updates (minimum six times) about status of your manuscripts directly in your email.

Our Commitment

Six weeks

You will get first decision on your manuscript within six weeks (42 days) of submission. If we fail to honor this by even one day, we will publish your manuscript free of charge.

Four weeks

After we receive page proofs, your manuscript will be published in the journal within four weeks (31 days). If we fail to honor this by even one day, we will publish your manuscript free of charge and refund you the full article publication charges you paid for your manuscript.

Mentored Review Articles (MRA)

Our academic program "Mentored Review Article" (MRA) gives you a unique opportunity to publish papers under mentorship of international faculty. These articles are published free of charges.

Favored Author program

One email is all it takes to become our favored author. You will not only get fee waivers but also get information and insights about scholarly publishing.

Institutional Membership program

Join our Institutional Memberships program and help scholars from your institute make their research accessible to all and save thousands of dollars in fees make their research accessible to all.

Our presence

We have some of the best designed publication formats. Our websites are very user friendly and enable you to do your work very easily with no hassle.

Something more...

We request you to have a look at our website to know more about us and our services.

We welcome you to interact with us, share with us, join us and of course publish with us.

Edorium Journals: On Web

Browse Journals

CONNECT WITH US