

Treatment of a Complex Renal Aneurysm by Simple Nephrectomy

Yassine Larrache^{1*}, Mahmoud Alafifi¹, Amine Moataz¹, Mohamed Dakir¹, Adil Debbagh¹, Rachid Aboutaieb¹

¹Department of Urology, University Hospital Center Ibn Rochd Casablanca, Morocco, Faculty of Medicine and Pharmacy of Casablanca, Morocco

*Corresponding Author: Yassine Larrache

Department of Urology, University Hospital Center Ibn Rochd Casablanca, Morocco, Faculty of Medicine and Pharmacy of Casablanca, Morocco

Article History: | Received: 26.09.2022 | Accepted: 01.11.2022 | Published: 05.11.2022 |

Abstract: A renal artery aneurysm is a dilated segment of the renal artery that is larger than twice the diameter of a normal renal artery. Despite its rarity, the diagnosis and incidence of this entity have been steadily increasing as a result of the widespread use of cross-sectional imaging. Renal artery aneurysms can be clinically significant and potentially fatal in some cases. However, knowledge of their occurrence, natural history and prognosis, whether treated or not, is limited. We present a case of a renal artery aneurysm complicated by hypertension that did not respond to medical treatment and was treated with simple nephrectomy.

Keywords: renal artery aneurysm, diagnosis, prognosis, Endovascular surgery.

Copyright © 2022 The Author(s): This is an open-access article distributed under the terms of the Creative Commons Attribution 4.0 International License (CC BY-NC 4.0) which permits unrestricted use, distribution, and reproduction in any medium for non-commercial use provided the original author and source are credited.

INTRODUCTION

Renal artery aneurysms are uncommon, asymptomatic, and mostly incidental, affecting the left kidney. The main complications of renal artery aneurysms are thrombosis, rupture, and intra-renal embolism [1]. Endovascular surgery, surgical reconstruction, or nephrectomy are used to treat complex aneurysms [2]. We present a case of a renal artery aneurysm complicated by hypertension that was unresponsive to medical treatment and was treated with simple nephrectomy.

OBSERVATION

The patient was 20 years old and had been followed for three years for severe arterial hypertension that was resistant to antihypertensive treatment, prompting her to seek further treatment from a cardiologist. A renal and bladder ultrasound was ordered, which revealed a hypotrophic, poorly differentiated left kidney. A CT angio revealed a 27*18 mm left renal artery aneurysm with pre-occlusive stenosis just upstream and circulation in the left lumbar paravertebral artery (Figure 1).

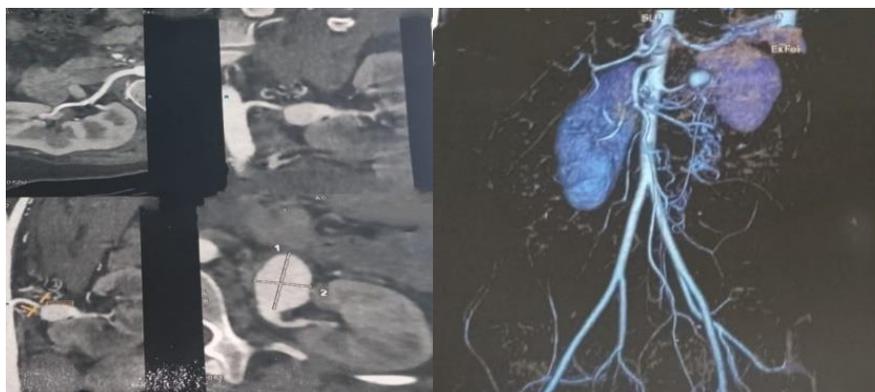


Figure 1: Angioscan showing an aneurysm of the left renal artery

Citation: Yassine Larrache, Mahmoud Alafifi, Amine Moataz, Mohamed Dakir, Adil Debbagh, Rachid Aboutaieb (2022). Treatment of a Complex Renal Aneurysm by Simple Nephrectomy; *SAR J Med Case Rep*, 3(4), 29-30.

The inflammatory panel was negative, and the renal function was normal, with a serum creatinine level of 12 mg/L. After well-conducted antihypertensive treatment failed and endovascular surgical treatment proved difficult, a simple nephrectomy was performed (Figure 2).

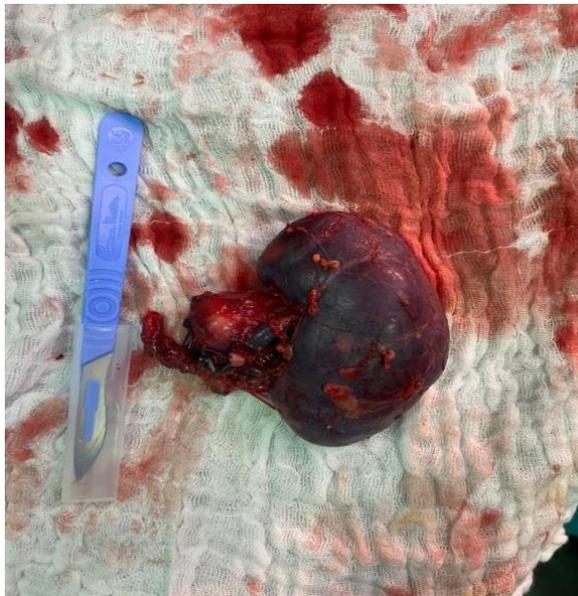


Figure 2: Surgical specimen of simple nephrectomy with left renal artery aneurysm

The postoperative care was straightforward, and the patient was discharged on day four. The histopathological analysis was unremarkable.

DISCUSSION

Renal artery aneurysms are uncommon and usually asymptomatic, with an estimated incidence of 1.3% [4]. Haematuria, pain, and hypertension are the most common clinical manifestations. (2) The most important test for confirming the diagnosis is an angiography [1]. Untreated renal aneurysms can lead to rupture, thrombosis, renal failure, and hypertension, all of which have an impact on the affected kidney. Renal aneurysms are treated with either watchful waiting, endovascular surgery, or open surgery [1].

The indication for surgery is still debatable in the literature, with some authors advocating surgery only if the aneurysm is symptomatic, complicated, pregnant, or larger than 2 cm in size, whereas others have recommended surgery for any aneurysm before complications arise [3].

Endovascular treatment with microcoil embolization or stent grafting is the most commonly used technique, with less morbidity than open surgery;

diabetes and coagulopathy are the main risk factors for death [4]. Complex aneurysms or aneurysms near vessel bifurcation or located in distal arterial branches preclude the use of endovascular techniques and necessitate the use of open surgery [2].

Aneurysm resection with simple arterial repair, bypass surgery, extracorporeal repair with autotransplantation, or nephrectomy are all examples of open surgery [3].

The main indications for renal autotransplantation are complex renal aneurysms, extensive ureteral lesions, and conservative surgery for renal cancer in a patient with a single kidney, with good results reported in the literature [5].

CONCLUSION

Renal artery aneurysms are uncommon and usually asymptomatic; their severity is determined by the presence of complications. There are surgical management criteria that are not always indicated, and renal autotransplantation or simple nephrectomy is reserved for complex aneurysms.

REFERENCES

1. Zoulati, M., Bakkali, T., Slaoui, A., Aghoutane, N., Lyazidi, Y., Chtata, H., & Taberkant, M. (2019). Treatment of a complex renal artery aneurysm by renal autotransplantation. *JMV- Journal of Vascular Medicine*, 44 (6), 432-435.
2. Unno, N., Yamamoto, N., Inuzuka, K., Sagara, D., Suzuki, M., Konno, H., ... & Suzuki, K. (2007). Laparoscopic nephrectomy, ex vivo repair, and autotransplantation for a renal artery aneurysm: Report of a case. *Surgery Today*, 37(2), 169-172.
3. Berloco, P. B., Levi Sandri, G. B., Guglielmo, N., Lai, Q., Melandro, F., Poli, L., ... & Rossi, M. (2014). Bilateral ex vivo repair and kidney autotransplantation for complex renal artery aneurysms: A case report and literature review. *International Journal of Urology*, 21(2), 219-221.
4. Hislop, S. J., Patel, S. A., Abt, P. L., Singh, M. J., & Illig, K. A. (2009). Therapy of renal artery aneurysms in New York State: outcomes of patients undergoing open and endovascular repair. *Annals of vascular surgery*, 23(2), 194-200.
5. El Tayar, A. R., Labruzzo, C., Haritopoulos, K., & Hakim, N. S. (2003). Renal artery aneurysm: ex vivo repair and autotransplantation: case report and review of the literature. *International surgery*, 88(2), 61-63.