

Available online at [www.sciencedirect.com](http://www.sciencedirect.com)

ScienceDirect

journal homepage: [www.elsevier.com/locate/radcr](http://www.elsevier.com/locate/radcr)

## Case Report

Bilateral renal lipomatosis: A case report<sup>☆</sup>

Abdourahman Waberi, MD\*, Fatima-Ezzahrae Badi, MD, Aicha Merzem, MD,  
Hasna Belgadir, MD, Omar Amriss, MD, Nadia Moussali, MD, Naima Elbenna, MD

Radiology Department, 20 Aout 1953 Hospital, CHU IBN Rochd, Casablanca, Morocco

## ARTICLE INFO

## Article history:

Received 27 February 2022

Revised 8 January 2023

Accepted 9 January 2023

## Keywords:

Renal replacement lipomatosis

CT

Lithiasis

## ABSTRACT

Renal replacement lipomatosis is a rare condition characterized by fatty tissue proliferation. It has been associated with aging, lithiasis disease, and renal transplantation. The clinical presentation is non-specific, and imaging is essential to confirm and make the differential diagnosis. We report a case of a patient followed for endometrial thickening or the diagnosis of renal lipomatosis that was discovered incidentally on an abdominopelvic CT scan.

© 2023 The Authors. Published by Elsevier Inc. on behalf of University of Washington.

This is an open access article under the CC BY-NC-ND license  
(<http://creativecommons.org/licenses/by-nc-nd/4.0/>)

## Introduction

Renal lipomatosis is a chronic degenerative process in which the renal parenchyma is replaced by fatty tissue. The process of replacement is not well understood. However, there are some factors related to this replacement. Among these are advanced age, long-term corticosteroid therapy, lithiasis, or renal transplantation [1]. The clinical signs are not specific, and often the diagnosis is discovered incidentally during an echography, computed tomography (CT) scan, or magnetic resonance imaging (MRI) for another reason, as in the case of our patient. The purpose of medical imaging is to confirm the diagnosis but also to make a differential diagnosis.

## Patient and observation

We report the case of a 65-year-old female patient without any notable chronic pathological history who presented with endometrial thickening on pelvic ultrasound and was referred to our department for an abdominopelvic scan. She had no history of hematuria, abdominal pain, fever, or urinary signs. The patient also had no history of obstructive uropathy or renal failure. The renal assessment did not show any abnormalities. The CT scan shows an enlarged sinus fat in 2 kidneys associated with atrophy of the renal parenchyma and small cortical cysts. No visualization of renal lithiasis or dilation of the collecting system (Fig. 1). Additional ultrasound shows an

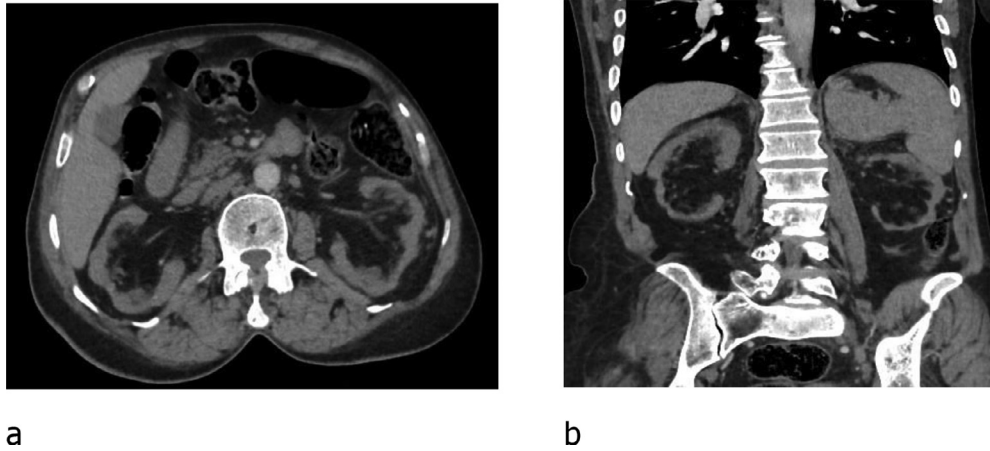
<sup>☆</sup> Competing Interests: The authors have no conflicts of interest to disclose.

\* Corresponding author.

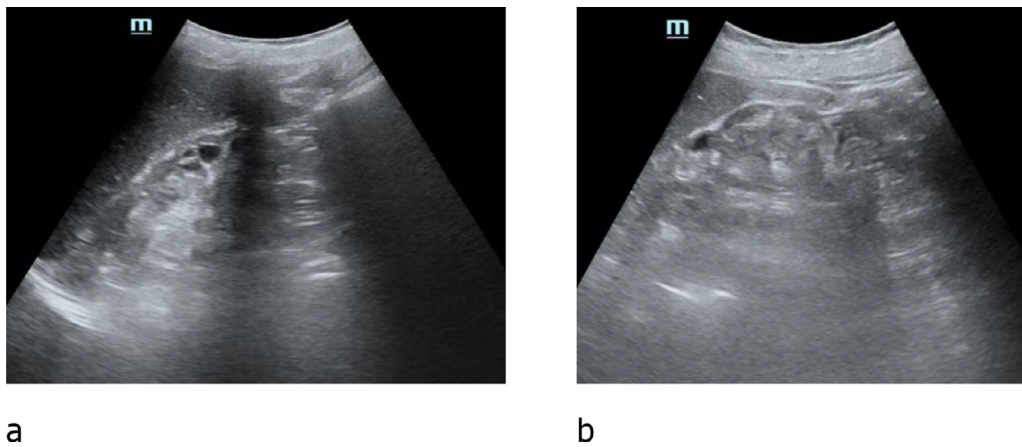
E-mail address: [abdouwabe@gmail.com](mailto:abdouwabe@gmail.com) (A. Waberi).

<https://doi.org/10.1016/j.radcr.2023.01.041>

1930-0433/© 2023 The Authors. Published by Elsevier Inc. on behalf of University of Washington. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>)



**Fig. 1 – CT scan in axial (A) and coronal (B) sections showing an enlarged sinus fat in 2 kidneys associated with atrophy of the renal parenchyma and simple small cortical cysts.**



**Fig. 2 – Ultrasound shows enlarged renal sinus with atrophy of the renal parenchyma and small cortical cysts.**

enlarged renal sinus with atrophy of the renal parenchyma and small cortical cysts (Fig. 2). The patient is referred to her doctor for further treatment.

## Discussion

Renal replacement lipomatosis is an uncommon chronic debilitating and usually disorder. An overgrowth of adipose tissue in the renal sinus, renal hilum, and perirenal space causes it. The exact pathogenesis is unknown; it has been reported that renal calculus disease is found in more than 70% [2]. However, it was also associated with aging and kidney transplant [3]. Clinical signs are not specific; this condition can be discovered incidentally (as in our patients). Sometimes patients report renal colic, flank pain, and fever and may also present with an abdominal mass in physical examination. Imaging, mainly cross-sectional imaging (ultrasound, CT scan, and MRI), establishes the diagnosis and eliminates differential diagnosis. Ultrasound shows an enlarged renal sinus as a hy-

perchoic image and allows one to visualize the presence or absence of renal lithiasis. CT scan is the best imaging modality and shows an enlargement of the renal sinus, renal hilum, and perirenal space [4]. CT scan allows us to estimate the degree of atrophy of the renal parenchyma. MRI further confirms this condition and allows differential diagnosis with multiple renal lesions containing fat, such as: lipoma, liposarcoma, angiomyolipoma, or xanthogranulomatous pyelonephritis. The particularity in our patient is that the renal replacement lipomatosis was bilateral, the discovery was incidentally, and there was no associated calculus disease.

## Conclusion

Renal replacement lipomatosis is a rare condition that's often linked to calculus disease. However, discovering it in patients with no known history of kidney stones isn't excluded and should eliminate differential diagnosis thanks to imaging.

---

**Patient consent**

The patient's consent was taken. She was consenting. We kept the anonymity both in the writing but also on the images.

**REFERENCES**

---

[1] Subramanyam BR, Bosniak MA, Horii SC, Megibow AJ, Balthazar EJ. Replacement lipomatosis of the kidney:

- diagnosis by computed tomography and sonography. *Radiology* 1983;148(3):791–2.
- [2] Kampantais S, Young A, Liyanage SH. Renal replacement lipomatosis: from conception to birth. *Urology* 2019;124:e6–8.
- [3] Chang SD, Coakley FV, Goldstein RB. Case report: renal replacement lipomatosis associated with renal transplantation. *Br J Radiol* 2005;78(925):60–1.
- [4] Prasad KR, Chandra HS, Kumar KV. Renal replacement lipomatosis. *Indian J Urol* 2012;28(1):105.