World Journal of Advanced Research and Reviews
eISSN: 2581-9615 CODEN (USA): WJARAI
Cross Ref DOI: 10.30574/wjarr
Journal homepage: https://wjarr.com/

(CASE REPORT)

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Wunderlich syndrome: A case report

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World Journal of Advanced Research and Reviews, 2024, 21(02), 874–876

Publication history: Received on 01 January 2024; revised on 11 February 2024; accepted on 13 February 2024

Article DOI: https://doi.org/10.30574/wjarr.2024.21.2.0506

Abstract

- Wunderlich syndrome is defined as a clinical manifestation secondary to sudden spontaneous rupture of the renal parenchyma outside of trauma resulting in hemoretroperitoneum. This spontaneous renal hemorrhage is often attributed to renal angiomyolipomas, arterial venous fistulas, immunovasculitis and other phlogoses of the kidney.
- We describe the case of a 17-year-old girl, who presented to the emergency department with sudden onset of abdominal pain without any significant medical history. Imaging findings and clinical history led to the diagnosis of Wunderlich syndrome. The patient was admitted to the intensive care unit for close monitoring, and recovered without any complications. She is currently doing well

Keywords: Wunderlich Syndrome; Angiomyolipomas; Hemoretroperitoneum

1. Introduction

- A rare condition in which spontaneous, non-traumatic renal hemorrhage occurs in the subcapsular and perirenal spaces.
- It is named after the German physician Carl Reinhold August Wunderlich (1815-1877), who published the first case description in 1856 and is best remembered for his pioneering work on clinical thermometry. The term Wunderlich syndrome was first recorded by Coenen in 1910 (1).
- It is clinically manifested by the Lenk triad, which associates:
  - acute flank pain syndrome
  - palpable mass
  - hemorrhagic shock
- The underlying etiology is varied, with most cases attributed to neoplasms, vascular disease, cystic kidney disease and induced anticoagulation.
- Therapeutic approaches can vary from conservative strategies, such as observation and supportive therapy, to more invasive interventions, such as selective arterial embolization or surgery.
- The choice of treatment depends on factors such as the underlying cause, hemodynamic stability and the extent of bleeding.

2. Case report

- A 17-year-old patient with no previous history presented to the emergency department with severe acute right flank pain rated 8/10 on the visual analog scale (VAS), described as pulsatile and radiating to the right flank

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and right spine, which had appeared one week previously. On arrival, she had a body temperature of 37.2°C, a pulse of 120 beats per minute, a respiratory rate of 28 cycles per minute with 90% saturation on room air, and a blood pressure of 100/60 mmHg. On physical examination, the patient had a right lumbar contact with no hematuria after urinary catheterization.

- Biological tests showed anemia at 7.5 g/l, normal renal function, a correct ionogram and a correct blood cell count.
- The patient was admitted to the intensive care unit, where she received oxygen monitoring and a transfusion.
- An abdominal angioscanner with late urinary time revealed a voluminous right retroperitoneal hematoma extending over the entire posterior face of the kidney and then continuing into the posterior pararenal space, along the lateral border of the right psoas muscle (but the right adrenal gland was not visible!), with no sign of contrast medium extravasation at the various arterial venous and urinary times. (Figure 1)

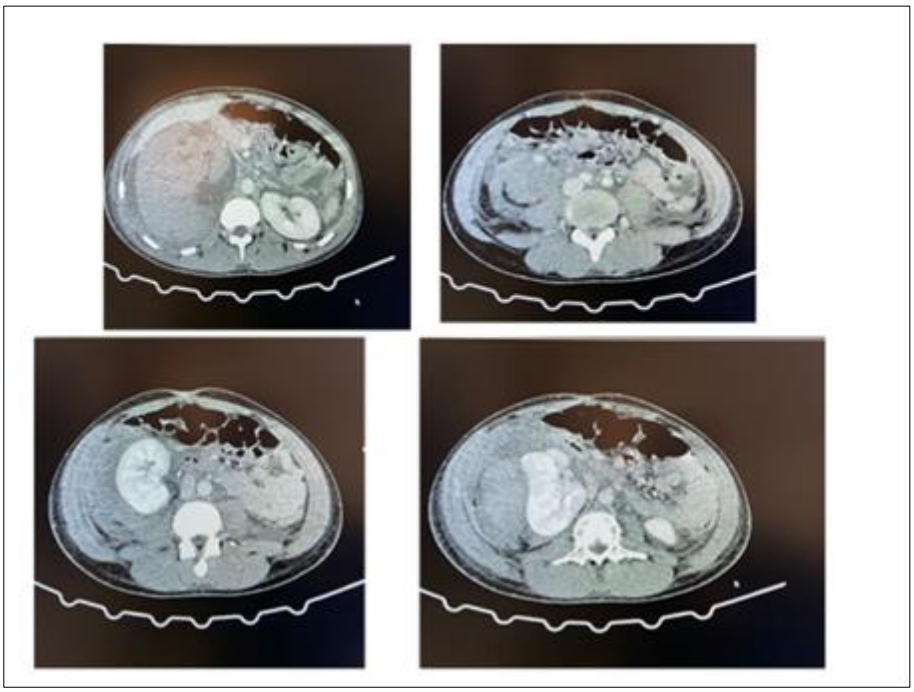

Figure 1 Scans showing spontaneous hematoma

- She received a total of 3 packed red blood cells, with optimization of blood volume and improvement in respiratory status (the patient became eupneic).
- The patient spent 48 hours in the intensive care unit and was then transferred to the urology department, given her favorable evolution.
- The patient was discharged after 10 days in hospital.
- A follow-up angioscan was performed after 10 days, showing partial regression of the hematoma and complete regression of the associated hemoperitoneum.
- The patient's control hemoglobin remained stationary at 12 with no deglobulation.

3. Discussion

- Cinman's excellent review of the literature shows that 63% of cases are due to tumors (30% malignant tumors, the most common being lung cancer, 33% benign tumors). 25% of cases are associated with vascular disease, the most common being periarteritis nodosa, and 12% with infectious disease.
- Some authors consider angiomyolipoma to be the most common tumor cause, while others consider malignant tumors such as adenocarcinoma (1).
- Cross-sectional imaging modalities, particularly multiphasic CT or MRI, are integral to the detection, localization and characterization of underlying causes, and facilitate optimal management. However, significant hemorrhage at presentation may mask underlying causes, particularly neoplasms (3).

If the initial CT or MRI scan reveals no contributing cause, a specific follow-up study may be warranted to establish the cause of SW. (4)

Renal arterial embolization is a useful, minimally invasive treatment option in patients with acute or life-threatening bleeding and may help avoid emergency radical surgery. (5) Accurate diagnosis of the underlying cause of SW is essential for optimal treatment of patients in both urgent and non-urgent clinical settings. (6)

4. Conclusion

Wunderlich syndrome remains a rare disease, requires multidisciplinary treatment, several etiologies can be incriminated and must be imperatively investigated.

This disease should not be ignored, especially by urologists, and should benefit from urgent treatment.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

Statement of informed consent

We had the consent of the patient.

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