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Wilms Tumor (WT) presenting with spontaneous necrosis and *Clostridium perfringens* co-infection

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Introduction

- Previously healthy 5-year-old female with two-day history of left flank pain and fevers
- Vital signs with tachycardia (130 bpm), hypertension (116/75), fever (101.7 F)
- Physical exam with soft but distended abdomen, left-sided and flank tenderness. No palpable mass or organomegaly
- Physical exam and ROS otherwise unremarkable

Initial Evaluation

CRP	70 mg/dL
WBC	22.56 x 10 ⁹ /L
Urinalysis	5-10 WBC; otherwise unremarkable
CT	Left upper quadrant mass (Figure 1)

Clinical Course

- Admitted and started on empiric Ceftriaxone
- Urine cultures, plasma normetanephrine and metanephrine levels, Vanillylmandelic Acid and Homovanillic acid levels were within normal limits
- Symptoms and inflammatory markers improved by day 5 of empiric ceftriaxone
- Biopsy was performed given ambiguous clinical appearance of renal mass with infectious characteristics
- Initial pathology report demonstrated a phlegmonous appearance of the left kidney with fibrovascular proliferation, edema, and inflammation without evidence of malignancy

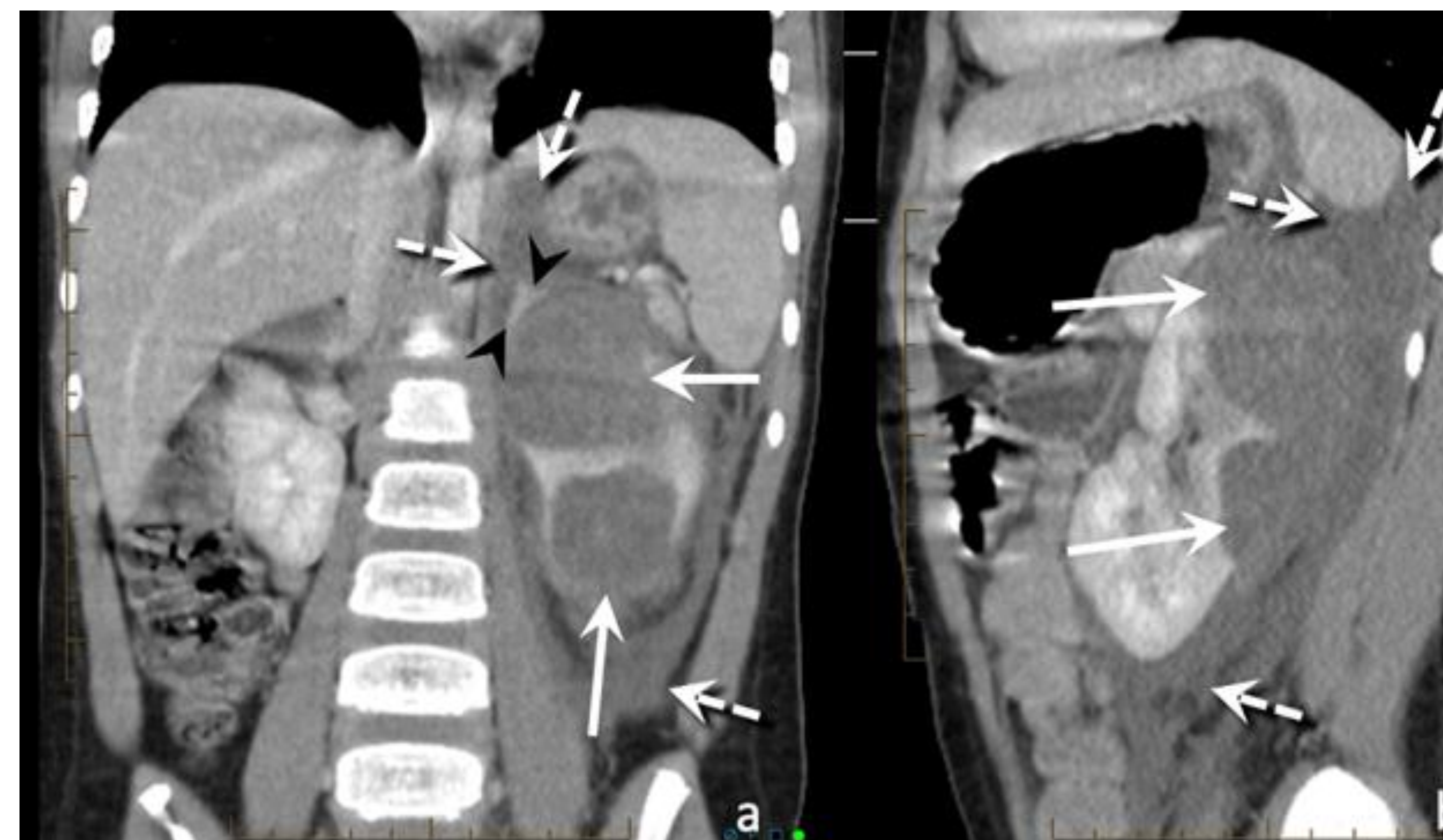


Figure 1. Coronal (a) and sagittal (b) contrast-enhanced CT images from initial study show the lobular renal mass (white arrows) and perirenal fluid or hemorrhage (dashed white arrows) that surrounds the adrenal gland (black arrowheads).



Figure 2. Coronal (a) and sagittal (b) contrast-enhanced CT images demonstrate substantial decrease in the size of the left renal mass (white arrows) and reduction in the size of the surrounding fluid/hemorrhage.

Outcome

- Tissue cultures were positive for *Clostridium perfringens*; patient was discharged with a 10-week course of cefixime
- Repeat CT abdomen/pelvis 4 weeks after discharge noted decreased size of the renal mass (Figure 2)
- Subsequent ultrasounds noted minimal improvement
- Repeat renal biopsy obtained 13 weeks after discharge was diagnostic for WT (Figure 3)

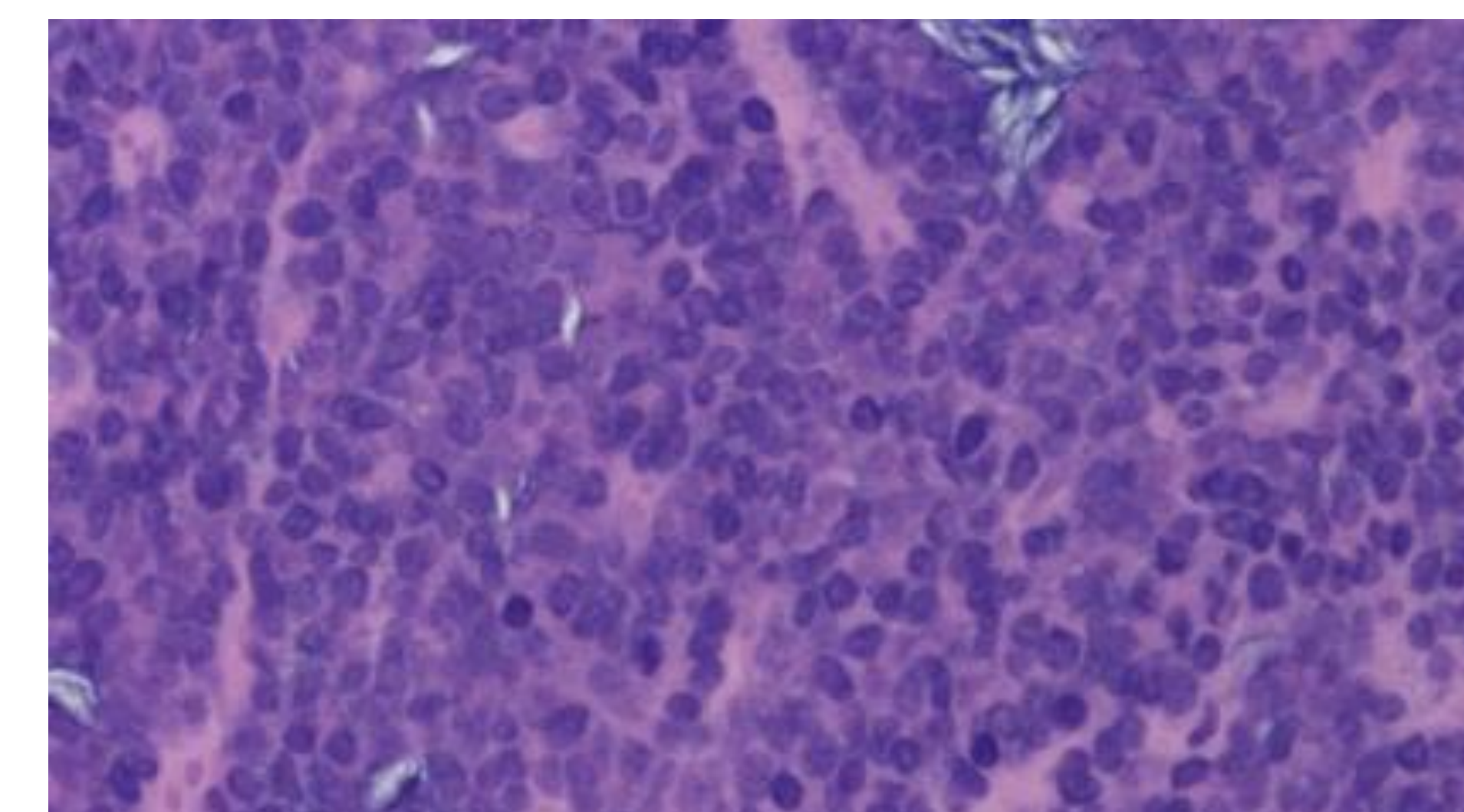


Figure 3. Histology slide from tissue biopsy demonstrating monomorphic blue cells in varying stages of cell death consistent with WT with positive WT1 protein.

Conclusions

- In this case, the initial biopsy was masked by presence of secondary bacterial infection and necrosis
- WT may mimic other pediatric renal pathologies clinically and radiologically, including renal hemorrhage, abscess, or other renal malignancies
- This case underscores the importance of avoiding confirmation bias in the setting of ambiguous clinical presentations of abdominal masses

References

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