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Microscopic Polyangitis Masquerading as Guillain-Barre Syndrome: A Renal Cell Carcinoma Paraneoplasm

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ABSTRACT/INTRODUCTION

Microscopic polyangiitis (MPA), a rare systemic vasculitis and a subset of ANCA associated Vasculitis (AAVC), can manifest with neurological symptoms mimicking Guillain-Barre Syndrome (GBS). We present a unique case where MPA, initially misdiagnosed as GBS, was later revealed as a manifestation of paraneoplastic syndrome secondary to renal cell carcinoma (RCC).

Keywords: Microscopic polyangiitis; Guillain-Barré Syndrome; Renal cell carcinoma; Paraneoplastic syndrome; Vasculitis.

CASE SUMMARY

A 66-year-old male with a past medical history of hypertension and hyperlipidemia presented to the emergency department with progressive respiratory distress, bilateral lower limb weakness, ascending paresthesia, and urinary incontinence for 5 days. The initial examination revealed diffuse bilateral rhonchi, flaccid paralysis with bilateral lower extremity strength of 1/5,loss of 2-point proprioception, loss of deep tendon reflexes (DTR), and impaired light and crude senses, suggestive of a wide range of differentials including, but not limited to, Stroke, Cauda-Equina syndrome, GBS, and AAVC. The initial workup, including imaging studies, bloodwork, and lumbar studies, unveiled elevated inflammatory markers (Erythrocyte Sedimentation Rate, C-Reactive Protein).

Urine analysis revealed gross hematuria and proteinuria. Renal ultrasound for uropathy revealed an incidental left renal mass likely malignant.

Lumbar fluid analysis on day 2 was indicative of cytoalbuminologic dissociation (elevated protein with normal WBC count), suggestive of GBS. Further renal imaging (Figure 2) and biopsyconfirmed RCC clear cell type 1, suggesting that the patient's neuropathy can be a part of paraneoplastic syndromes[1,2]. Subsequently, the patient was started on IVIG.

Chest CTA on day 3 confirmed findings of pulmonary fibrosis with scant alveolar hemorrhage (Figure 1). Meanwhile, the patient's oxygen demands increased on day 5 requiring Non-Invasive ventilation (AVAPS). An ABG revealed hypoxia with a PaO2 of 26, normal PCO2, and an increased A-a Gradient which ruled out diaphragmatic paralysis secondary to NeuromuscularWeakness in GBS. Serology testing, which also resulted on that day, revealed positive peripheral antineutrophil cytoplasmic antibody (P-ANCA) and anti-myeloperoxidase (MPO) antibodies.

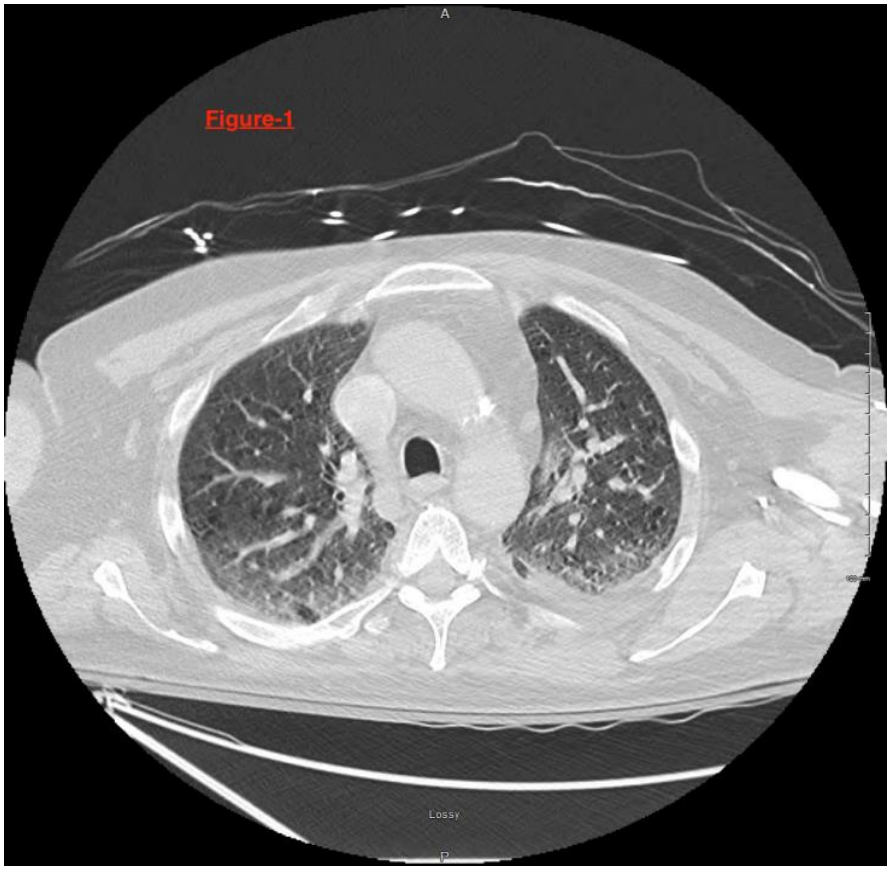

Figure 1: Displaying alveolar hemorrhage and opacities consistent with AAVS

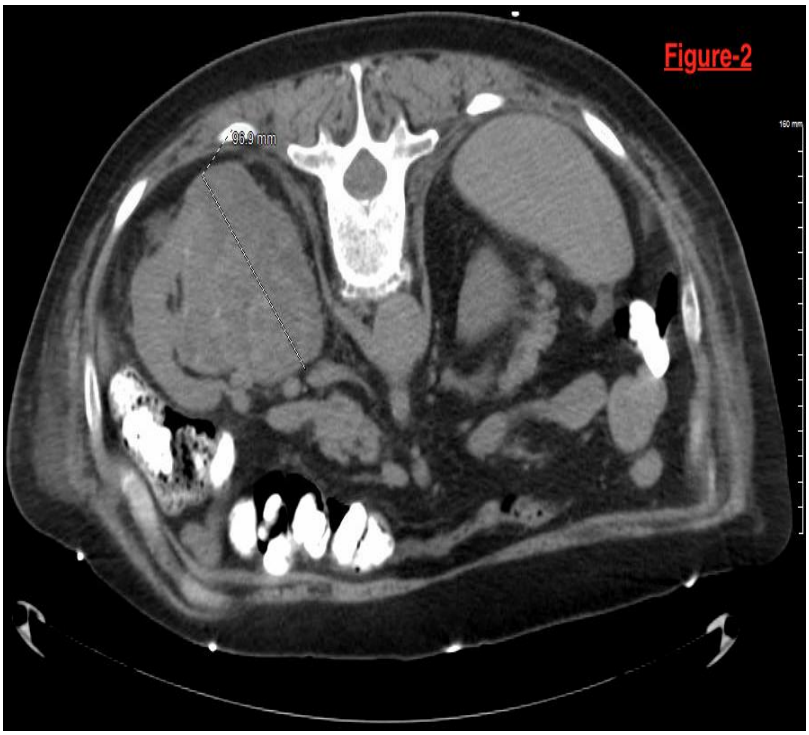

Figure 2: Displaying Right Renal Cell Carcinoma

The finding of pulmonary fibrosis with alveolar hemorrhage, symmetric polyneuropathy, positiveserology, unremarkable eosinophil count, and negative sinus symptoms (discharge, ulcer, crusting, congestion) directed to a new diagnosis of MPA with a sum score of +9[3].

The patient was subsequently started on intravenous steroids followed by oral taper on discharge and outpatient rehab for further recovery. The patient showed improvement in muscular strength in both lower extremities, and resolution of uropathy. He is scheduled tohave a pulmonary biopsy and oncologic consultation in March[4-6].

DISCUSSION: KEY TAKEAWAYS

This case highlights the diagnostic challenge of distinguishing between AAVC paraneoplasm such as MPA and GBS, especially in the presence of underlying malignancies like RCC. While GBS typically shows a slower response to IVIG compared to steroids, our patient's rapid improvement post-steroid therapy suggests an alternative diagnosis of MPA. Early recognitionand treatment of vasculitis are crucial in preventing irreversible neurological deficits. Cliniciansshould maintain a high index of suspicion for vasculitis in patients presenting with neurologicalsymptoms, particularly when associated with malignancies.

Furthermore, the association between vasculitis and paraneoplastic syndromes underscores the importance of comprehensive evaluation in patients with atypical or refractory neurologicalpresentations. In this case, the discovery of RCC as the underlying malignancy prompted a reevaluation of the initial diagnosis, leading to a timely intervention and improved clinical outcomes.

Collaboration between multiple specialties, including neurology, oncology, rheumatology, andpathology, was

instrumental in reaching an accurate diagnosis and formulating an effective treatment plan. This interdisciplinary approach emphasizes the significance of a holistic approach to patient care, especially in complex clinical scenarios involving rare diseases andparaneoplastic manifestations.

Future research focusing on the pathophysiological mechanisms linking vasculitis to paraneoplastic syndromes and the optimal management strategies for such cases is warranted. Additionally, raising awareness among healthcare providers regarding the diverseclinical presentations of vasculitis and its association with underlying malignancies can facilitate early detection and intervention, ultimately improving patient outcomes.

Disclosures: None

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