

A Unique Case of Small Cell Lung Cancer Presenting as only Refractory Hypokalemia

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Case:

The patient is a 65 year male who presented with worsening dyspnea on exertion and proximal muscle weakness, consistent with a CHF exacerbation. The patient was treated for an exacerbation of CHF, however, throughout treatment he remained hypokalemic despite repeated replacement. Further work up revealed an elevated ACTH and cortisol, and Chest CT and subsequent biopsy confirmed small cell lung cancer (SCLC). Eventually the patient progressed to developing thrombocytopenia and started demonstrating cushionoid features consistent with a Neuroendocrine carcinoma.

Literature review:

Lung cancer is the second most common cancer and accounts for 14% of new cancers. SCLC is a subset of Lung Cancer, which is a neuroendocrine carcinoma that exhibits aggressive behavior making early identification imperative. Only 1-5% of SCLC cases present with ACTH secretion, making these rare cases. Due to the neuroendocrine nature of the disease, this is often associated with many paraneoplastic syndromes such as SIADH and Cushing's syndrome. Previous cases with similar pathology have found that thrombocytopenia can also be present.

Unique Aspect:

For this patient's SCLC, the only presenting symptom was hypokalemia. This was different from other cases, as they have had features such as thrombocytopenia or cushingnoid features, which eventually did appear near the end of the patient's course. This potentially demonstrates that refractory hypokalemia may be the first and only presenting abnormality in SCLC with ACTH secretion.

Recommendations:

Clinicians should keep refractory hypokalemia in mind as they treat patients with low potassium and consider workup to rule out SCLC as early detection can significantly improve outcomes.

Conclusions:

We present a patient of a patient who was found to have a unique case of SCLC that was found through refractory hypokalemia. Additional symptoms such as thrombocytopenia were eventually found after diagnosis was confirmed. Refractory hypokalemia could potentially help guide clinicians in the future.

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