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Title: A Rare Case Report of Co-occurrence of Heart Block and Ventricular Tachycardia in a Septuagenarian – Unmasking the ASrrhythmias

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Abstract:

Introduction: It is rare in clinical practice to encounter complete heart block co-occurring with tachyarrhythmias. We are hereby presenting such a case which on workup turned out to be a channelopathy.

Case report: A 73 year old diabetic and hypertensive gentleman presented to our institute with two transient episodes of giddiness over a period of 15 days which was suggestive of pre-syncope. Patient was conscious, oriented with GCS 15/15. PR: 44/min, regular rhythm. BP: 90/60 mm Hg. SpO₂ 96% at room air. RR 16/min. Systemic examination was normal.

ECG showed Complete AV block with right axis deviation. 2D echo revealed Concentric LVH/ Good LV systolic function/ No RWMA.

Blood investigations showed mildly elevated total counts and serum creatinine with decreased serum potassium, chloride and magnesium levels. Serum and urine osmolality were normal. Urine potassium was elevated. TTKG was elevated on calculation. ABG was suggestive of metabolic alkalosis. Urine spot chloride was elevated. Ca/Cl ratio was elevated. Holter monitoring showed complete AV dissociation with significant bradycardia and multiple short runs of self-terminating Polymorphic VTs.

Hence patient was diagnosed to have Complete heart block with symptomatic bradycardia with transient polymorphic VTs secondary to hypokalemia and hypomagnesaemia due to Gittleman syndrome; Hypertensive heart disease/ Systemic hypertension; Type 2 diabetes mellitus; Chronic renal failure.

Patient was treated with potassium and magnesium supplements, beta agonists and potassium sparing diuretics. Chronotropic incompetence was ruled out by Treadmill test. Post correction Holter showed improvement in bradycardia and absence of VT. He was advised high potassium diet and lifelong oral supplementation of potassium and magnesium.

Conclusion: Although symptomatic complete AV block with arrhythmia is an absolute indication for pacemaker insertion, treatable causes like channelopathies have to be evaluated. Management of the underlying reversible cause can correct the condition without the need for invasive management. (296 words)

Keywords: *Gittleman syndrome, Complete heart block, Ventricular tachycardia, Hypokalemia, Hypomagnesemia*