THE HUNGRY BONE AND DILATED VESSELS SYNDROME: A CASE SERIES OF SEVERE AND LONGLASTING HYPOTENSION OCCURING IMMEDIATELY AFTER PARATHYROIDECTOMY IN HYPERTENSIVE ESRDPATIENTS

Objective: Secondary hyperparathyroidism and hypercalcemia have been associated with mild hypertension , while parathyroidectomy usually causes a few mmHg drop in blood pressure (BP). We noticed an unusual (and yet unpublished) occurrence of acute severe hypotension immediately after total or subtotal parathyroidectomy, in severely hyperparathyroid and hypertensive patients on hemodialysis. The hypotension becomes longlasting, sometimes disabling. Our aim was to collect clinical data on these cases in order to understand their pathophysiology.

Design and Methods: We reviewed dialysis recordings of 5 dialysis centers, looking for symptomatic hypotensive patients who were hypertensive before parathyroidectomy. Three patients were detected: patients were interviewed, their medical charts were analyzed, and sitting and standing blood pressure were measured. For two patients we added measurements of central blood pressure and pulse wave velocity (PWV) using SphygmoCor device .

Results: Patient characteristics and BP measurement done by us are shown in Table 1. All three patients were on Hemodialysis from young age due to congenital or primary glomerular disorders. All had many years of severe tertiary hyperparathyroidism with resultant Ca++ above 9mg/dl despite treatment. Two patients had BP values around 170-200mmHg systolic despite multiple medications. All three showed abrupt fall in blood pressure, that persisted for months, and in one case for 10 years. Currently,two patients have severe symptomatic hypotension, and one patient has borderline hypotension,and doesn't need his blood pressure medications. On average Ca++ dropped about 3mg/dl after surgery. Patients have evidence of preserved cardiac output, decreased systemic vascular resistance, and, despite being on hemodialysis many years,low PWV, reflecting good arterial elasticity.

Conclusion: We describe a novel clinical presentation of "hungry bone and dilated vessels" syndrome.We found no evidence of orthostatism or autonomic failure,nor a surgical disruption of the carotid sinus.We documented increased arterial elasticity and decreased resistance. A possible change in intracellular calcium, calcium sensing receptor sensitivity or PTH receptor can explain the hypotension. Thus,calcium supplementation or infusion might be of clinical benefit.