

**P-201**

**Vitamin D kinetics and parathyroid function in patients with congenital heart disease.**

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**Introduction:** Recently, it is reported that vitamin D deficiency may contribute to the systemic illness that accompanies chronic heart failure. The reports also suggest the serum Parathyroid Hormone (PTH) level that activates vitamin D in the liver is an useful marker of heart failure. This study was designed to examine vitamin D and PTH levels in patients with congenital heart disease and chronic heart failure.

**Methods:** We measured the serum 25-hydroxyvitamin D (25-OH D), 1,25-dihydroxyvitamin D and PTH levels in 49 patients with congenital heart disease (age ranging 20-69 years old). Out of 49, 32 patients were in NYHA functional class II or III. Their clinical data such as cardiothoracic ratio (CTR), fraction shortening of systemic ventricle, B-type natriuretic peptide (BNP) and percutaneous oxygen saturation (SpO<sub>2</sub>) were also evaluated. According to previous report, we defined vitamin D deficiency as serum 25-OH D <10ng/ml and hyperparathyroidism as serum PTH >100pg/ml.

**Results:** Seventeen patients without heart failure did not show vitamin D deficiency and/or elevation of serum PTH level. Out of 32 patients with chronic heart failure, 20 patients (63%) had vitamin D deficiency and/or elevation of serum PTH. These two parameters were inversely correlated each other. In particular, Serum PTH significantly correlated with NYHA (P=0.003), BNP (P=0.003) and CTR (P=0.001).

**Conclusions:** We showed that vitamin D deficiency and secondary hyperparathyroidism are common in patients with congenital heart disease and heart failure. Serum PTH and 25-OH D levels correlated with several clinical markers of heart failure, suggesting that vitamin D deficiency may deteriorate heart failure in patients with congenital heart disease.