

9<sup>th</sup> International Conference on

## ENDOCRINOLOGY AND DIABETES SUMMIT

September 13-14, 2017 Singapore

**Interactions between calcium metabolism and anti-reflux medication after sleeve gastrectomy****Sperker C, Abraham A, Brix J, Saalabian A, Loetsch B, Russold E, Hofmann-Strommer P, Landsiedl A, Schermann M and Grünberger T**  
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**Introduction:** Malabsorption and micronutrient deficiencies are known problems after bariatric surgery. Therefore, supplementation and regular controls are inevitable. Calcium ( $\text{Ca}^{2+}$ ) levels, which may be disrupted after malabsorptive bariatric procedures are known to depend on gastric pH levels.

**Objectives:** To determine the effect of proton pump inhibitors (PPI) on  $\text{Ca}^{2+}$ , parathyroid gland hormone (PTH) and vitamin D levels after sleeve gastrectomy (SG).

**Methods:** All patients who underwent SG between 2008 and 2013 were enrolled in our follow-up program. The patients were examined preoperatively and then four times during the first year.  $\text{Ca}^{2+}$  metabolism and weight parameters were monitored. All the patients received 3000 mg of  $\text{Ca}^{2+}$  carbonate (equivalent to 1200 mg of  $\text{Ca}^{2+}$ ), 800 IE of vitamin D, as well as one multivitamin tablet daily. All the parameters were then analyzed for associations with PPI intake.

**Results:** Data of 385 out of 400 (96.2%) patients were analyzed after 1 year of follow-up (3.8% lost to follow-up). Thirty nine (10.1%) patients took PPI for at least three months during the first year. The  $\text{Ca}^{2+}$  levels were significantly lower ( $p < 0.0001$ ) in the PPI group in comparison to the non-PPI group, although neither of the groups showed hypocalcaemia. The PTH levels showed an opposite behavior ( $p < 0.0001$ ).

**Conclusions:** Our data show that higher gastric pH levels caused by PPI intake negatively influence  $\text{Ca}^{2+}$  absorption. Therefore,  $\text{Ca}^{2+}$  and PTH levels should be monitored, especially in patients receiving PPI therapy after SG.

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**Evaluation of free radical scavenging capacity of improved hybrids of thiosemicarbazone-triazole and their influence on glucose metabolism: Relevance to the management of diabetes mellitus****Ademola Ayeleso and Mukwevho E**  
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Diabetes mellitus is a metabolic disease in which the body is unable to produce or respond to the insulin produced and leads to abnormal metabolism of carbohydrates and elevated levels of glucose in the blood. It is a major health problem not only in urban, but also in the rural areas. Oxidative stress, an imbalance between the production of free radicals and body antioxidant system has been implicated in the pathogenesis of diabetes. Free radicals attack important macromolecules leading to cell damage. Antioxidants are intimately involved in the prevention of damage caused by free radicals. The anti-diabetic effects of hybrid compounds (2a-h) of thiosemicarbazone and triazole containing methoxy groups at C(4) positions were tested against genes involved in glucose metabolism (*GLUT-4*, *MEF2A* and *NRF-1*) using quantitative real time PCR (qPCR). Free radical scavenging capacity (FRAP, TEAC and DPPH) of the hybrids was also carried out by using established techniques. From the results, 2b and 2h showed more pronounced effects in the up-regulation of the diabetes associated genes. The addition of methoxy group as an improvement to the previously synthesized compounds could be a reason for the expression of the genes, thereby enhancing glucose transport. All the hybrid compounds showed free radical scavenging abilities. In conclusion, hybrid compounds (2b and 2h) can be useful as potential drugs for the management of diabetes mellitus.

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