

## Singaporean Asian Patients have paradoxically higher rates of vitamin D deficiency compared to Western Patients

<sup>1</sup>Department of Endocrinology, Singapore General Hospital, Singapore <sup>2</sup>Department of Surgery, Singapore General Hospital

Daniel C. Wai<sup>1</sup>, Shanker Pasupathy<sup>2</sup>, Sonali Ganguly<sup>1</sup>, Kwang W. Tham<sup>1</sup>

**Background:** Vitamin D deficiency has been reported in between 57% to 65% of patients in Western countries before bariatric surgery and can drop further after surgery, resulting in metabolic bone disease. No studies have however reported vitamin D (vit-D) levels in patients before bariatric surgery in tropical Singapore. **Aims of Study:** To retrospectively investigate vit-D and intact parathyroid hormone (iPTH) levels in obese patients immediately before undergoing bariatric surgery in a tertiary hospital. **Methods:** Baseline patient characteristics, preoperative Vit-D and iPTH levels were studied together with its relationship to race, gender and body mass index (BMI). Results were presented as mean (standard deviation). **Results:** 46 patients underwent bariatric surgery. 61% were female. There were 44% Chinese, 26% Malay, 24% Indian, and 7% were of other ethnicity. 78% had laparoscopic sleeve gastrectomy, 20% Roux-en-Y gastric bypass, and 2% bilio-pancreatic diversion. The mean age was 39 (10.6) and the mean BMI was 43.6 (9.8). The mean of vit-D was low at 17.4 ng/ml (8.6). 75% were deficient (<21 ng/ml), 21% were insufficient (21-29 ng/ml), and only 4% had sufficient vit-D (>29 ng/ml). Mean iPTH was low at 6.5 pmol/l (3.5). 50% of the patients had raised iPTH. Vit-D levels were inversely correlated with BMI ( $r^2=0.242$ ,  $p=0.008$ ). Non-Chinese patients had higher BMI (46.3 vs 40.0,  $p=0.032$ ), lower vitamin D levels (13.6 vs 23.2 ng/ml,  $p=0.002$ ) and higher iPTH (8.7 vs 4.4 pmol/l,  $p=0.007$ ). Those were not different between males and females. **Conclusion:** The majority of obese patients, especially Malays and Indians, had deficient and insufficient vit-D levels even before bariatric surgery. Alarmingly the proportion of patients deficient was higher than in Western countries despite the fact that Singapore has sunshine all year round. Physicians in tropical countries therefore should routinely screen for its deficiency preoperatively with appropriate repletion.

## A Simple Clinical Scoring System to Identify Patients at Risk of NASH Before the Development of NASH

<sup>1</sup>Department of General and Digestive Surgery, Flinders Medical Centre, Adelaide, Australia <sup>2</sup>Department of Digestive Surgery, Osaka Medical Centre for Cancer and Cardiovascular Diseases, Osaka, Japan  
Jacob A Chisholm<sup>1</sup>, Yosuke Seki<sup>2</sup>, James Toouli<sup>1</sup>, Jurgen Stahl<sup>1</sup>, Jane Collins<sup>1</sup>, Lilian Kow<sup>1</sup>

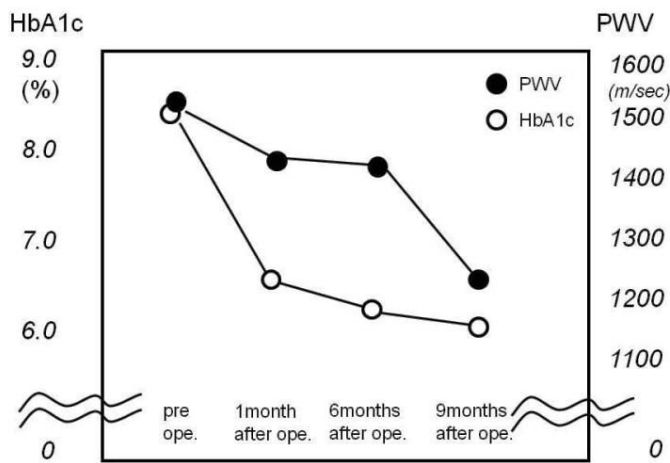
**Background** Nonalcoholic fatty liver disease (NAFLD) is common in the morbidly obese. It is a condition that can lead to progressive fibrosis and cirrhosis. A clinical scoring system to identify patients predisposed to fibrosis would assist in selecting patients for liver biopsy and further management. **Methods** Liver biopsies were taken from 370 consecutive patients who underwent laparoscopic bariatric surgery. Clinical and biochemical parameters were then assessed for correlation with histological features of non-alcoholic fatty liver disease. **Results** Sixty eight patients (18%) were found to have non-alcoholic steatohepatitis (NASH). Raised insulin resistance, ALT and total bilirubin were independently associated with NASH. The presence of at least 2 of the 3 provided the best combination of sensitivity (0.71) and specificity (0.71) for predicting NASH. **Conclusion** Raised insulin resistance, ALT and total bilirubin are clinical indicators for the presence of NASH prior to the development of fibrosis.

## Bariatric surgery improves arterial stiffness of the patient with metabolic syndrome

<sup>1</sup>Department of Rehabilitation, Kamagaya General Hospital, Chiba, Japan <sup>2</sup>Department of Diabetes and Endocrinology, Saitama Medical University, Saitama, Japan <sup>3</sup>Department of Ageing Control Medicine, Juntendo University Graduate School of Medicine, Tokyo, Japan <sup>4</sup>Department of obesity surgery, Kamagaya General Hospital, Chiba, Japan

Yuichi Shinoda<sup>1</sup>, Ikuo Inoue<sup>2</sup>, Takuji Shirasawa<sup>3</sup>, Isao Kawamura<sup>4</sup>

Obesity is an independent predictor of cardiovascular risk. Increased arterial stiffness, as reflected by an increased pulse wave velocity (PWV), is significantly and independently associated with higher risk for cardiovascular morbidity and mortality. According to recent reports, individuals with obesity are likely to have an increase in aortic stiffness, independent of blood pressure (BP) level, ethnicity, and age. A 60-year-old Japanese woman with obesity (BMI 45.5) and metabolic syndrome was referred to us. Her diabetic status is under control after bariatric surgery. The PWV decreased significantly after treatment (1528 vs 1211cm/sec) with reduction of visceral fat (100 vs 52 cm<sup>2</sup>). The bariatric surgery could improve arterial wall stiffness in patients with metabolic syndrome. The pathophysiologic mechanisms that link abdominal adiposity to arterial stiffening are should be investigated.



Case study : Partial Situs Inversus in a Morbidly Obese Female.

Sanjay Borude

#### Introduction

A 32 years old female presented with off & on mid chest pain and Morbid Obesity (BMI 41.41Sq. Mtrs) & secondary infertility. One FTND & she had a h/o ? liver problem.

#### Method

CT Chest/Abd/Pelvis showed Enlarged Mediastinal Lymph nodes and Partial Situs Inversus since there was no Dextr-Cardia.

Ba Meal FT also showed Situs Inversus. Haematology, Biochemistry, ECG, 2D Echo, Chest X-ray were normal.

Patient planned for a Sleeve Gastrectomy in a supine reverse Trendenburg' s position. Primary surgeon stood on the left of the patient. Camera 12 mm port in the supra-umbilical region, 12 mm port in the line of umbilicus in (L) mid-clavicular line, 5 mm port right epigastrium for liver retraction, another two 5 mm working ports either side of the mid abdomen.

Intra-operative findings: Large stomach on the right of abdomen, Liver extending from left to right, Spleen in the RHC region. Devascularisation of the greater curvature started from about 6 cms from the Pylorus to the right crus. Stomach resected with 32 F Bougie in the stomach. Staple line burried with 2-0 Ethibond suture. Abdominal drain placed. Ryles tube placed in the stomach.

#### Result

Patient' s recovery was uneventful. Patient started on oral liquids 20 hours after the surgery. Ryles tube was removed after 24 hours and drain after 30 hours.

#### Conclusion

Patient was totally asymptomatic so far GI tract was considered. It was only the surgical task for the surgeon because of the "Mirror-Image" effect.