

## Excess fructose, lactose, oligosaccharides, and polyols in the Chinese diet: a prospective qualitative study on dietary FODMAP content

VP Tan, E Yeung

Department of Medicine, The University of Hong Kong, Queen Mary Hospital, Hong Kong

**Background:** The emergence of FODMAP restriction in the management of irritable bowel syndrome (IBS) has been a seminal development. Little is known about whether the Chinese diet contains high FODMAPs foods that could be restricted to effect symptoms management in functional gastrointestinal disorders (FGID). This study aimed to examine the possible sources of FODMAPs in the Chinese diet and to identify food items that warrant FODMAP analysis in this region.

**Methods:** Consecutive subjects from the gastro-intestinal out-patients of a major teaching hospital in Hong Kong were recruited if they had a diagnosis of functional dyspepsia, IBS, or inflammatory bowel disease. Control subjects were recruited from volunteers or relatives of patients at the hospital. Subjects were asked to keep a prospective diary of their entire food and fluid intake over a consecutive 5-day period. Subjects were asked to measure serving portions and to record the components of their meals to facilitate nutritional and FODMAP analysis.

**Results:** The diets of a total of 25 subjects were studied: 7, 6, 6, and 6 with functional dyspepsia, irritable bowel disease, inflammatory bowel disease, and control subjects, respectively. The mean age was 50.4 years and mean body mass index was 22.5 kg/m<sup>2</sup>. The mean calorie intake was 1666.8 calories (95% confidence interval [CI], 1543.9-1789.7). The relative proportion of fat, carbohydrate, and protein intake were 14%, 61% and 25%, respectively. The mean number of items with high FODMAP content ingested on a daily basis was 5.4 (95% CI, 4.8-6.1). The two main elements of the FODMAP complex ingested were oligosaccharides (found in wheat products, onions, garlic, and bean) and disaccharides (found in milk, milk powder, and butter) representing 62.22% (95% CI, 57.8-66.6%) and 26.6% (95% CI, 22.6-30.6%) of the relative proportion of FODMAP items ingested, respectively. This study also found dinner was the only meal where rice was clearly the main cereal ingested, at other meals wheat ingestion predominated with the exception of lunch where wheat and rice product ingestion were almost equal.

**Conclusions:** This study is the first to suggest that there are significant sources of FODMAPs in the Chinese diet. The study also confirms the significant westernisation of the Chinese diet in Hong Kong. Subjects with FGID such as IBS may benefit from selective restrictions of these carbohydrates.

## Antiplatelet drug resumption after antiplatelet-related intracerebral haemorrhage

KC Teo<sup>1</sup>, GKK Lau<sup>1</sup>, R Lee<sup>2</sup>, SK Chang<sup>1</sup>, GKK Leung<sup>3</sup>, DCW Siu<sup>1</sup>, RTF Cheung<sup>1</sup>, SL Ho<sup>1</sup>, KH Chan<sup>1</sup>

<sup>1</sup> Department of Medicine

<sup>2</sup> Department of Diagnostic Radiology

<sup>3</sup> Department of Neurosurgery

Queen Mary Hospital, The University of Hong Kong, Hong Kong

**Introduction:** Antiplatelet (AP) drugs resumption in survivors of AP-related intracerebral haemorrhage (AICH) represents an important medical dilemma as these patients have a high risk for both recurrent intracerebral haemorrhage (ICH) and ischaemic vascular event. The increased risk and high mortality of recurrent ICH is a significant factor that leads to the reluctance among clinicians to resume AP in survivors of AICH.

**Methods:** Medical records of consecutive survivors of AICH with standard indication for AP admitted from 1 July 2002 till 30 June 2010 were reviewed. The primary end-point was vascular death (death due to recurrent ICH or ischaemic vascular event). Other end-points were recurrent ICH and ischaemic vascular event. Univariate hazard ratio for vascular death and recurrent ICH were derived from a Cox proportional hazards model.

**Results:** There were 96 survivors. The mean age was 72.9 years and 66.7% of the survivors were male. A total of 35 patients (36.5%) were subsequently prescribed AP (aspirin = 33, clopidogrel = 2), in which 13 were prescribed after an ischaemic vascular event. Among AP users, there were 3 vascular deaths (rate, 29.8 per 1000 patient-years; 95% confidence interval [CI], 6.1-87.0), 4 recurrent ICH (rate, 39.7 per 1000 patient-years; 95% CI, 10.8-101.6), and 5 ischaemic vascular events (rate, 61.1 per 1000 patient-years; 95% CI, 19.8-142.5). Among non-AP users, there were 7 vascular deaths (rate, 26.1 per 1000 patient-years; 95% CI, 10.5-53.7), 4 recurrent ICH (rate, 15.4 per 1000 patient-years; 95% CI, 4.2-39.4), and 25 ischaemic vascular events (rate, 101.9 per 1000 patient-years; 95% CI, 66.0-150.5). AP exposure was not associated with vascular death (hazard ratio = 1.12; 95% CI, 0.29-4.36; P = 0.869). Hazard ratios for recurrent ICH were 2.24 (95% CI, 0.56-8.88; P = 0.255) for AP exposure, and 0.32 (95% CI, 0.08-1.26; P = 0.105) for index AICH at a deep hemispheric location.

**Conclusion:** AP resumption after AICH was not associated with an increased risk of vascular death. In view of the high rate of ischaemic vascular event among survivors of AICH, AP resumption should be considered, especially in survivors with lower risk of recurrent ICH.