

## Flash glucose: Diagnosis of post-bariatric hypoglycaemia

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## POST-BARIATRIC HYPOGLYCAEMIA

Our goal was to evaluate the use of Flash Glucose Monitoring (FGM) in the diagnosis of probable Post-Bariatric Hypoglycaemia (PBH). Over a 14-day period, patients (N=13) with suspected PBH completed a Food and Symptoms Diary (FSD) as well as FGM. Targeted data analysis revealed the presence of low glucose episodes in conjunction with meal-related symptoms. Glycaemic variability was enhanced, as measured by Mean Absolute Glucose Change (MAG change), and individuals with more frequent and severe hypoglycaemia had a greater risk of glycaemic excursions towards both hyper and hypoglycaemia [1]. The hypoglycaemia risk index presented herein has 100% sensitivity and 100% specificity for PBH with a cut-off value of 4.6. This pilot proof-of-concept study demonstrated that FSD combined with FGM, followed by focused data analysis, gives pertinent insights into PBH diagnosis and grading in a user-friendly and simple-to-implement study procedure. In addition, LBGIFGMGT proved to be a good indicator for PBH diagnosis. The unexpected improvement in glucose profile seen throughout the course of the monitoring period hints to a prospective use for PBH treatment.

Bariatric surgery is the most effective treatment now available for morbid obesity patients, having been shown to induce long-term weight loss and sustained remission of obesity-related comorbidities [2]. Despite the fact that the advantages of bariatric surgery much outweigh the dangers of the treatment, both early and late problems might arise.

Post-Bariatric Hypoglycaemia (PBH) is an uncommon but rapidly developing clinical syndrome that was first reported in 2010. PBH has mostly been described as a late complication of Roux-en-Y Gastric Bypass (RYGB), although it can also occur after other bariatric surgical techniques [3]. PBH is defined by repeated postprandial hypoglycaemic episodes in the context of normal fasting glucose and has the potential to significantly affect patients' well-being and quality of life.

Because there are no defined diagnostic criteria for PBH, the diagnosis is presently based on ruling out other causes of hypoglycaemia in a patient who has already had bariatric surgery [4]. Furthermore, despite several ideas, the aetiology of PBH remains unknown.

Identifying PBH as a probable cause of post-bariatric patient complaints can be difficult since hypoglycaemia can manifest as a wide range of unspecific clinical characteristics, including autonomic and neuroglycopenic symptoms including tremor, sweating, loss of consciousness, and even convulsions. Depending on the primary symptoms, physicians may examine a variety of diseases in the differential diagnosis, ranging from dumping syndrome to epilepsy [5].

PBH prevalence can range from 0.2% to 0.2% based on hospitalisation records due to hypoglycaemia, depending on the criteria employed for diagnosis. Because the true prevalence of PBH is difficult to determine based only on symptomatic reports, it ranges from 4% to 6.6% [6]. As a result of the enigmatic clinical presentation, as well as the lack of defined criteria for PBH diagnosis or clinical care recommendations, this illness is extremely difficult to manage.

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