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ENDO 2020

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ENDO 2020
OVERVIEW

Overview

Meet-The-Professor Case Management is designed to provide physicians with a concise and high-quality review of 55 common and rare endocrine disorders to help you keep your practice current. It consists of case-based clinical cases and rationale by experts in all areas of endocrinology, diabetes, and metabolism.

Accreditation Statement

The Endocrine Society is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians. The Endocrine Society has received Accreditation with Commendation. The Endocrine Society designates this enduring material for a maximum of 30.0 *AMA PRA Category 1 Credits*™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

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Learning Objectives

Meet-The-Professor Case Management will allow learners to assess their knowledge of all aspects of endocrinology, diabetes, and metabolism. Upon completion of this educational activity, learners will be able to:

- Recognize clinical manifestations of endocrine and metabolic disorders and select among current options for diagnosis, management, and therapy.
- Identify risk factors for endocrine and metabolic disorders and develop strategies for prevention.
- Evaluate endocrine and metabolic manifestations of systemic disorders.
- Use existing resources pertaining to clinical guidelines and treatment recommendations for endocrine and related metabolic disorders to guide diagnosis and treatment.

Target Audience

Meet-The-Professor Case Management provides case-based education to clinicians interested in improving patient care.

Statement of Independence

As a provider of CME accredited by the Accreditation Council for Continuing Medical Education, the Endocrine Society has a policy of ensuring that the content and quality of this educational activity are balanced, independent, objective, and scientifically rigorous. The scientific content of this activity was developed under the supervision of the Endocrine Society's Annual Meeting Steering Committee.

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ADIPOSE TISSUE, APPETITE, AND OBESITY

Evaluation and Management of Hypoglycemia After Gastric Bypass Surgery

Helen M. Lawler, MD. Department of Medicine, Division of Endocrinology, Metabolism, and Diabetes, University of Colorado School of Medicine, Aurora, Colorado 80045, E-mail: helen.lawler@ucdenver.edu

Marzieh Salehi, MD, MS. Department of Medicine, Division of Diabetes, University of Texas Health at San Antonio, San Antonio, Texas 78229; and South Texas Veteran Health Care System, Audie Murphy Hospital, San Antonio, Texas 78229, E-mail: salehi@uthscsa.edu

Learning Objectives

As a result of participating in this session, learners should be able to:

- Recognize how to diagnose PBH
- Differentiate PBH from other etiologies causing hypoglycemia
- Learn mechanisms involved in the development of PBH
- Understand the current therapeutic options for treating this condition

Significance of the Clinical Problem

Bariatric surgery induces a robust and durable weight loss and improves glucose tolerance in patients with type 2 diabetes (1). Altered glucose metabolism after Roux-en-Y gastric bypass (RYGB) surgery is partly independent of weight loss. With the increased popularity of RYGB, it has become recognized that a subgroup of individuals develop postprandial hypoglycemia associated with augmented insulin and glucagon-like peptide 1 (GLP-1) secretion several years after RYGB[2,3]. The exact prevalence of this devastating late complication of RYGB is unknown and probably underreported. Evidence suggests that the rate of hospitalization due to hypoglycemia or its surrogates (syncope and seizure) is higher by twofold to sevenfold in patients with RYGB compared with the general population; however, the overall reported incidence is relatively small (,1%)[4,5]. Affected individuals have a substantial decline in quality of life due to inability to maintain employment, drive, and perform their daily routines. Thus, it is critical to correctly diagnose hypoglycemia after RYGB and offer available treatment options. Hypoglycemia has also been reported after sleeve gastrectomy, but the prevalence and glucose profile characteristics for this condition are largely unknown. In this section, we focus on RYGB-related hypoglycemia [postbariatric hypoglycemia (PBH)].

Barriers to Optimal Practice

- Public and medical community awareness of this condition is lacking. Many patients with PBH do not associate their symptoms with RYGB, leading to several years of delay in diagnosis.
- Diagnosis of PBH is complex and requires documentation of Whipple's triad to differentiate this condition from asymptomatic hypoglycemia or postprandial symptoms caused by dumping with normal glucose levels.
- Current available therapies are limited and unlikely to eliminate hypoglycemia in severe cases of PBH.

Strategies for Diagnosis, Therapy, and/or Management

Hypoglycemia is defined as low glucose levels (whole blood glucose , 50 mg/dL and plasma glucose , 54 mg/dL) associated with hypoglycemic symptoms that are relieved shortly after carbohydrate administration (Whipple's triad) (6–8). Hypoglycemic symptoms are categorized into those initiated by glucose deprivation of the central nervous system (neuroglycopenic) or activation of the autonomic nervous system (autonomic). Neuroglycopenic symptoms include impaired cognitive function, confusion, slurred speech, seizure, and loss of consciousness. Autonomic symptoms manifest as shakiness, palpitation, anxiety, sweating, hunger, and paresthesia. Hypoglycemia after RYGB is exclusively postprandial (1 to 3 hours) and manifests at least 6 to 12 months after surgery, unlike postprandial symptoms caused by dumping syndrome, which develop at the time of reinstatement of regular food immediately after surgery. Accordingly, confirmation of Whipple's triad is critical to differentiating PBH from conditions such as postprandial symptoms consistent with hypoglycemia associated with normal glucose (dumping) or those with asymptomatic low blood glucose levels (7–9).

Main Conclusions

- PBH is defined as postprandial neuroglycopenia with documented plasma glucose , 54 mg/dL (whole blood glucose,50mg/dL) occurring at least 6 to12months after bariatric surgery. Whipple's triad must be confirmed.
- Fasting hypoglycemia is atypical in PBH, and if present, other possible etiologies of hypoglycemia should be considered and evaluated.
- To date, the foremost part of treating PBH is dietary modification with elimination of simple carbohydrates and addition of fat and protein to all meals and snacks.

Cases and Discussion

Case 1

A 42-year-old well-appearing woman who underwent a laparoscopic RYGB 3 years ago for a body mass index of 45 kg/m2 and maximum weight of 305 lbs presents with new onset of episodes of slurred speech, confusion, headache, and diaphoresis occurring

Table 1. A Comparison of Various Diet Programs and Eating Plans to a Typical American Diet

Type of Diet	Example	General Dietary
Typical American diet		Carbohydrate: 50%
Balanced-nutrient moderate-calorie approach	DASH Diet or diet based on MyPyramid food guide commercial diet plans such as:Diet Center, Jenny Craig® Nutrisystem®, Physician's Weight Loss Shapedown Pediatric Program, Weight Watchers®, Setpoint, Sonomo, Volumetrics	
Low- and very-low-fat, high-carbohydrate approach		

approximately 2 to 3 hours after eating. She has experienced three episodes weekly over the last 2 months. She denies fasting symptoms.

What Weight Loss Treatments Do You Discuss With Him?

What is the initial step in evaluation? A. Order a 72-hour inpatient fast B. Rule out pheochromocytoma C. Confirm Whipple's triad D. Place a referral for her to see a neurologist.

While obtaining patient history, it is important to collect information regarding timing of symptoms in relation to food consumption. The patient should be given a glucometer to check blood glucose levels when neuroglycopenic symptoms occur. Documentation of symptoms, glucose values, and timing and the type of food consumed in a patient diary can help clarify the diagnosis and identify prandial status.

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