

The contribution of fast test in the diagnostic approach of hypoglycemia in non-diabetic patients

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Introduction

Hypoglycemia is an uncommon complaint among non diabetic patients. The diagnosis approach of organic hypoglycemia is based on the fast test.

The aim of this study was to determine the role of the fast test in the diagnostic approach of hypoglycemia in non diabetic patients..

Patients and methods

It was a retrospective study, including 40 patients admitted in the endocrinology department between 2001 and 2015 for hypoglycemia signs. We collected clinical and biologic data, fast test results and final diagnosis of hypoglycemia. It was a total fast, with clinical monitoring (signs of hypoglycemia and capillary glucose level every 4h). Fast was stopped if hypoglycemia occurred (symptomatic with venous glucose \leq 0.5g/l),insulin and C-peptide dosage were performed.

Results:

The mean age was 46 9 years. 57,5% were women

60% had family history of diabetes. 32% were over weight or obese. 15% of the patients had hypertension
3 undergone digestive tract surgery.

The mean duration of symptoms was 33 55 weeks. 82.5% reported at least one of the adrenergic signs, 65% had neuroglycopenic signs. Symptoms were reversed by glucose intake in 87% of cases.

The mean capillary glucose level was 0.38 0.15 g/l. The mean fasting blood glucose was 0.9 0.12 g/l

Cortisol stimulation test was performed in 20 patients. Adrenal insufficiency was diagnosed in 2 cases.

Sulfonylurea induced hypoglycemia was diagnosed in 3 patients.

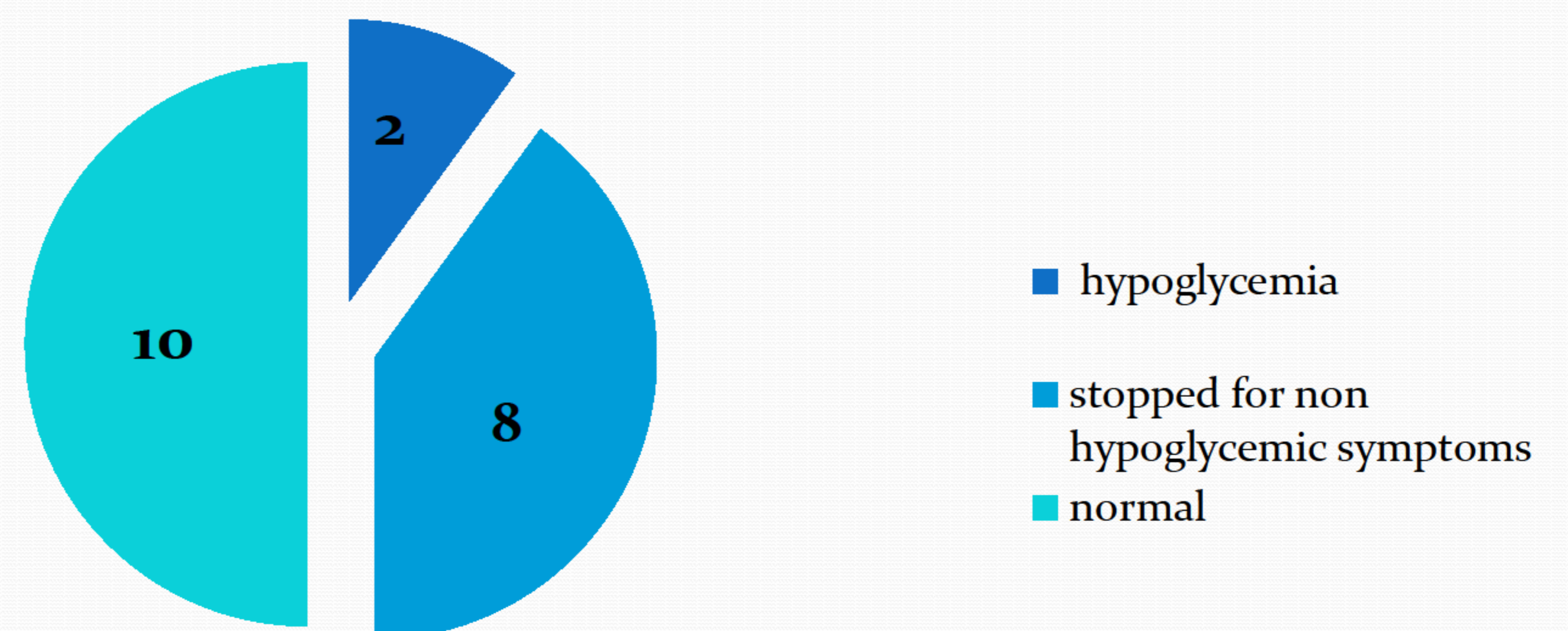


Fig 1: fast test results

Fast test was undertaken in 20 patients (fig1). An Insulinoma was diagnosed in 2 patients. hypoglycemia occurred within the first 24 hours (16 and 18 hours)of fast and tomography identified the tumors in both cases. 8 patients stopped the test voluntary or for non hypoglycemic symptoms. In 10 patients the fast test was normal, after 48hours In four cases and 72 hours in six .

Five hours glucose tolerance test was performed in 25 patients: Reactive Hypoglycemia was diagnosed in 77.5%.

conclusions

Hypoglycemia is suspected when adrenergic symptoms such as sweating and palpitations or neuroglycopenic signs such as eye blurring, and convulsions occur. In most cases, the physical examination and the fasting blood glucose are normal. Fast test is the chief pattern test to confirm organic hypoglycemia, and to diagnose insulinoma (1). In most cases, hypoglycemia occurs during the first 24 hours after the beginning of the fasting (1), and in almost all cases a negative 48 hours test is sufficient to rule out the diagnosis of organic hypoglycemia.

The reactive hypoglycemia should be confirmed by the 5 hours tolerance test if no hypoglycemia occurred during fast test (2). The reactive hypoglycemia is often associated with glucose tolerance abnormalities (2).

(1) BOAZ HIRSHBERG, ANDREA LIVI, D. L. BARTLETT, S. K. LIBUTTI, Forty-Eight-Hour Fast: The Diagnostic Test of Insulinoma. *J Clin Endocrinol Metab* 85: 3222–3226, 2000

(2) J. F. Brun, C. Fedou, and J. Mercier, "Postprandial reactive hypoglycemia," *Diabetes and Metabolism*, vol. 26, no. 5, pp. 337–351, 2000.

