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BACKGROUND

Disturbances of glucose metabolism are frequently observed in patients with acromegaly. Impaired fasting glucose and impaired glucose tolerance, together considered as early carbohydrate metabolism disorders (ECMDs), as well as diabetes mellitus (DM) can be established in up to three-quarters of patients.

General risk factors like age and body mass index, and disease-specific risk factors, such as activity of the acromegaly, but also duration of the disease and the specific type of treatment play an important role in the development of disturbances in glucose metabolism.

The specific role of acromegaly treatment has been reported in only a few studies. Some authors have reported that treatment with a somatostatin analogues (SSA) may reduce insulin secretion. On the other hand, SSA have also been associated with decreased insulin resistance. Meta-analysis of acromegaly studies has shown that therapy of SSA leads to the decreasing of insulin secretion, but the rising of HbA1c and FPG is not observed.

AIM

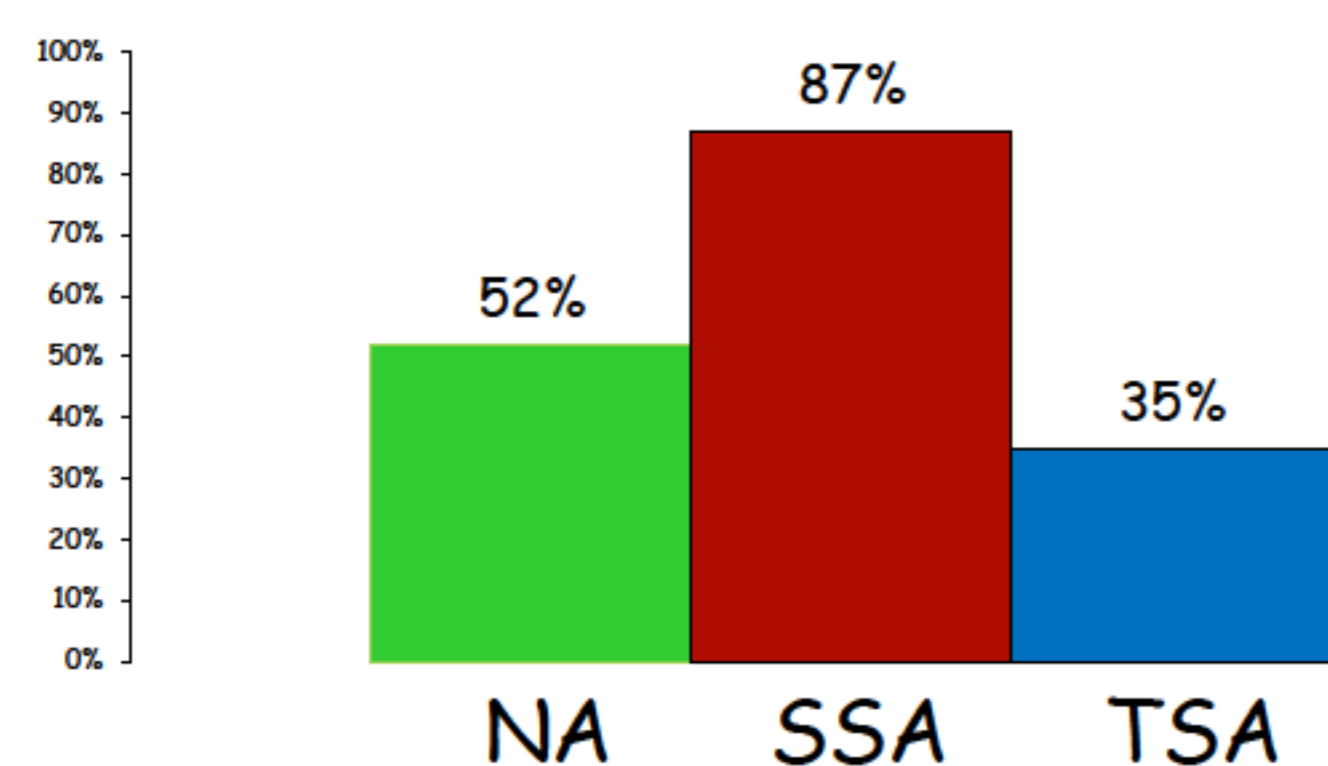
Assess the effect of SSA on pathogenesis of carbohydrate metabolism disturbance in acromegaly.

PATIENTS

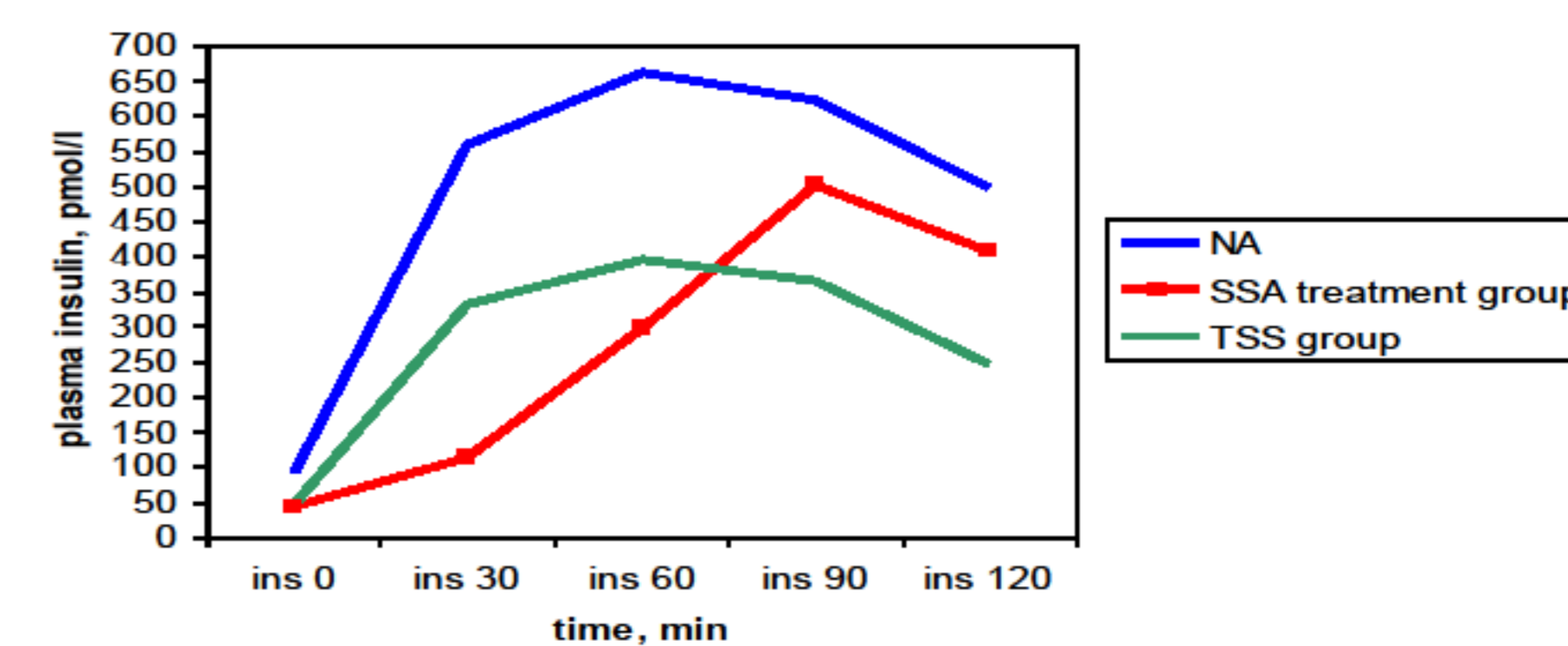
103 acromegaly patients were examined (31 men, 72 women; age 54 [46-61] years; 60 had newly diagnosed acromegaly (NA), 23 receiving SSA (SSA group), 20 after transsphenoidal surgery (TSS group). We analyzed IGF-1 level, fasting plasma insulin and glucose levels (FPI, FPG), HbA1c, the Matsuda and HOMA-IR indices, area under insulin curve in the first 30 minutes (AUCins.30) and from 30 to 120 minutes of oral glucose tolerance test (AUCins.30-120). In 23 NA patients we assessed these parameters after 3 and 6 months of SSA therapy (12 patients) and TSS (11 patients).

RESULTS

Prevalence of diabetes mellitus and early carbohydrate metabolism disturbance in patients with acromegaly



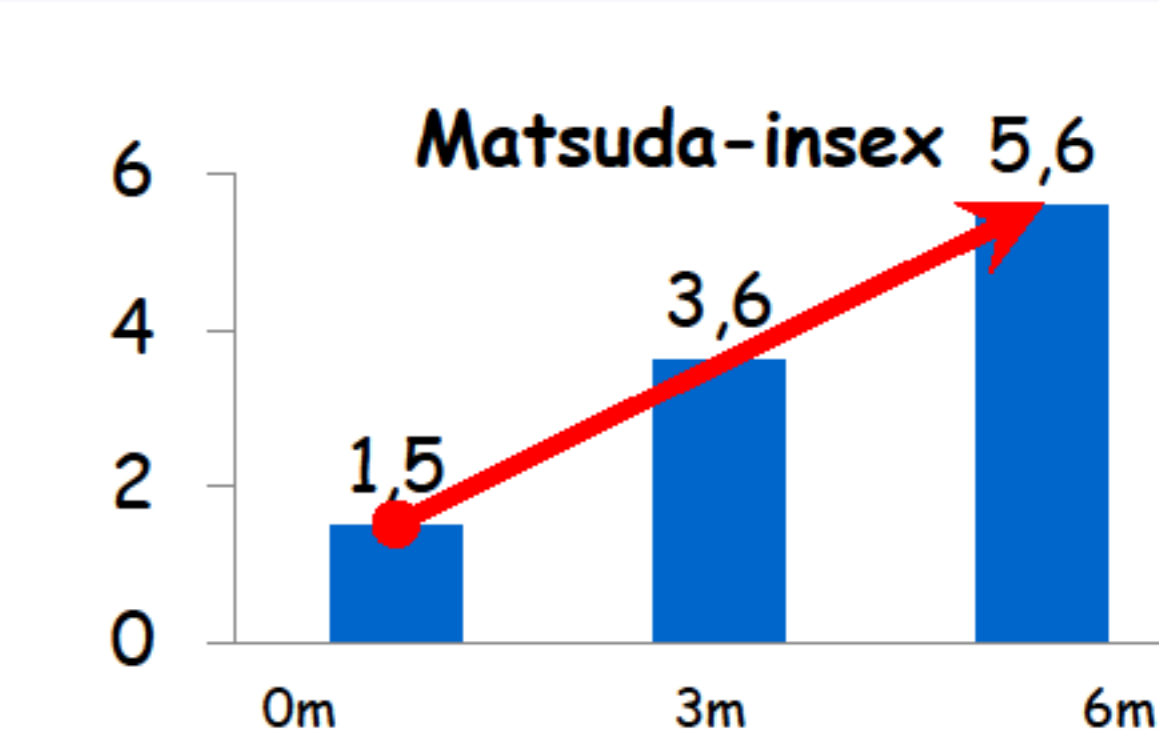
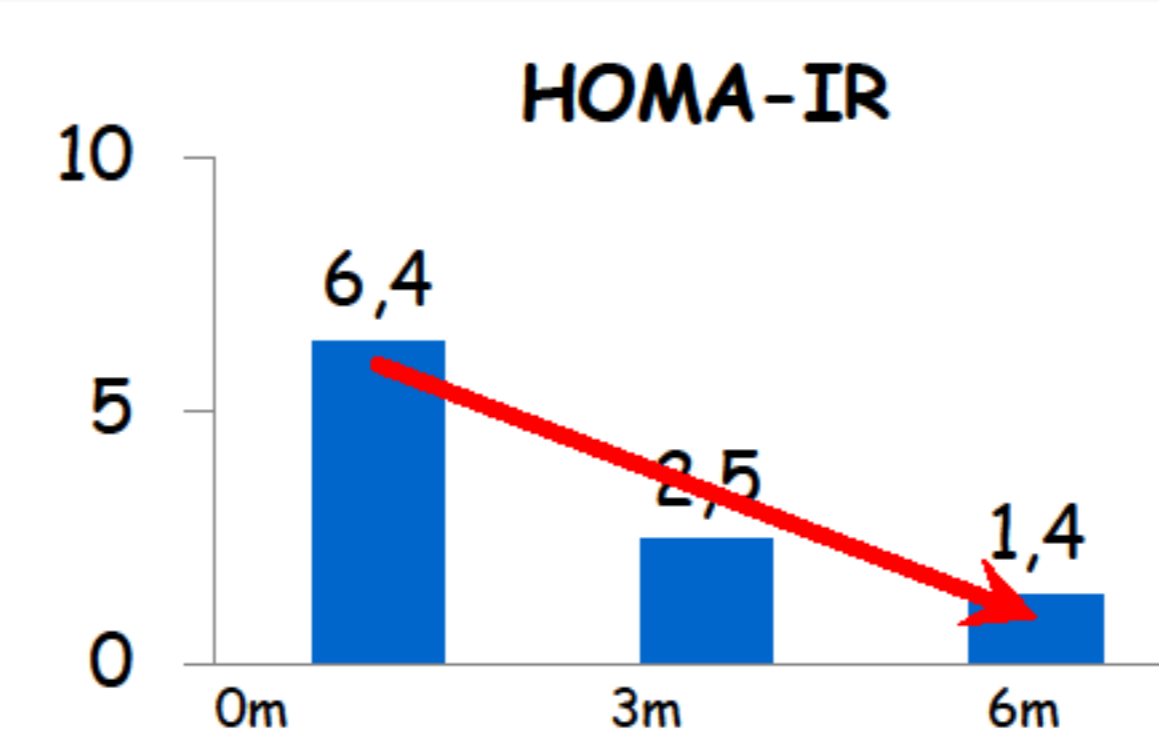
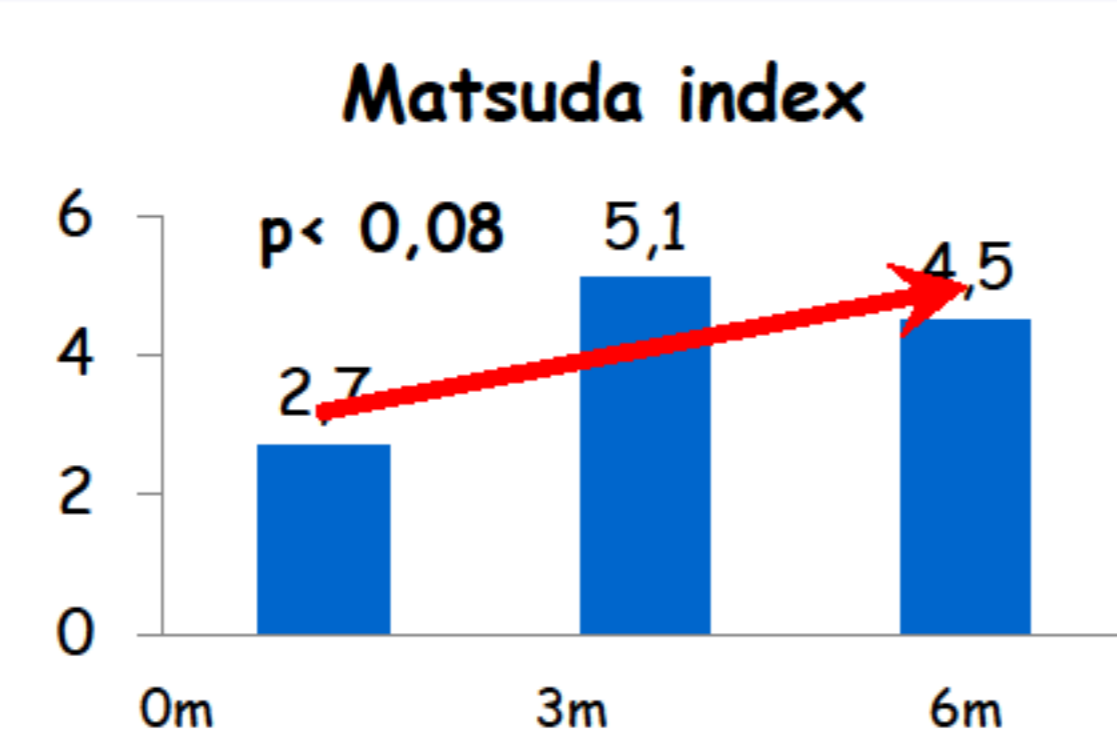
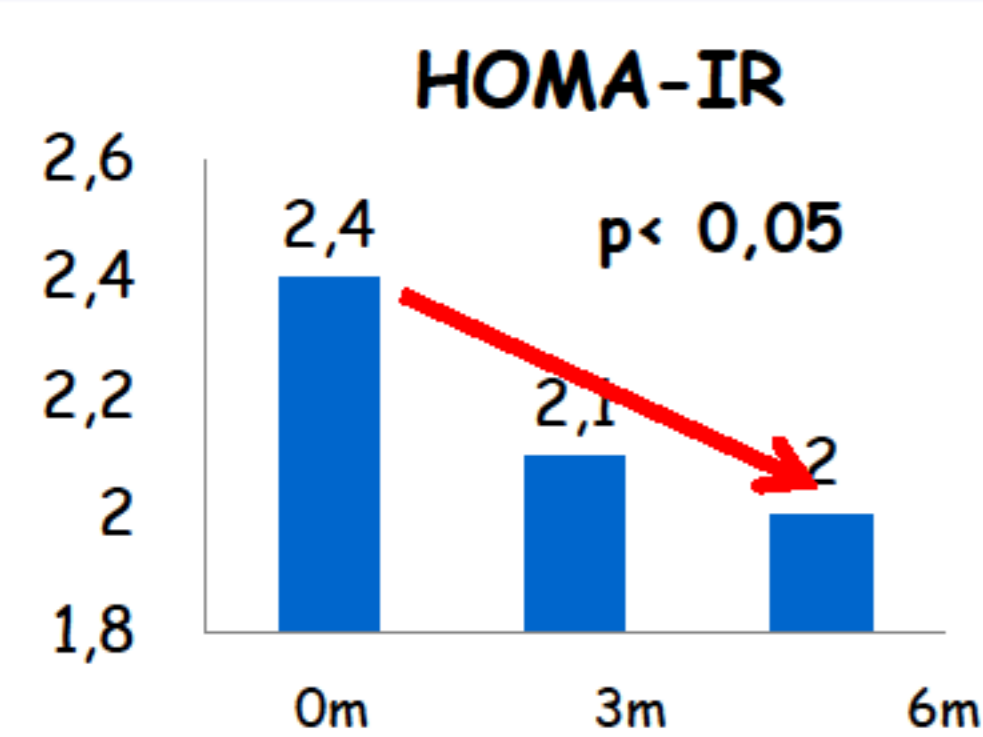
Insulinaemia in OGTT in acromegaly patients according to treatment



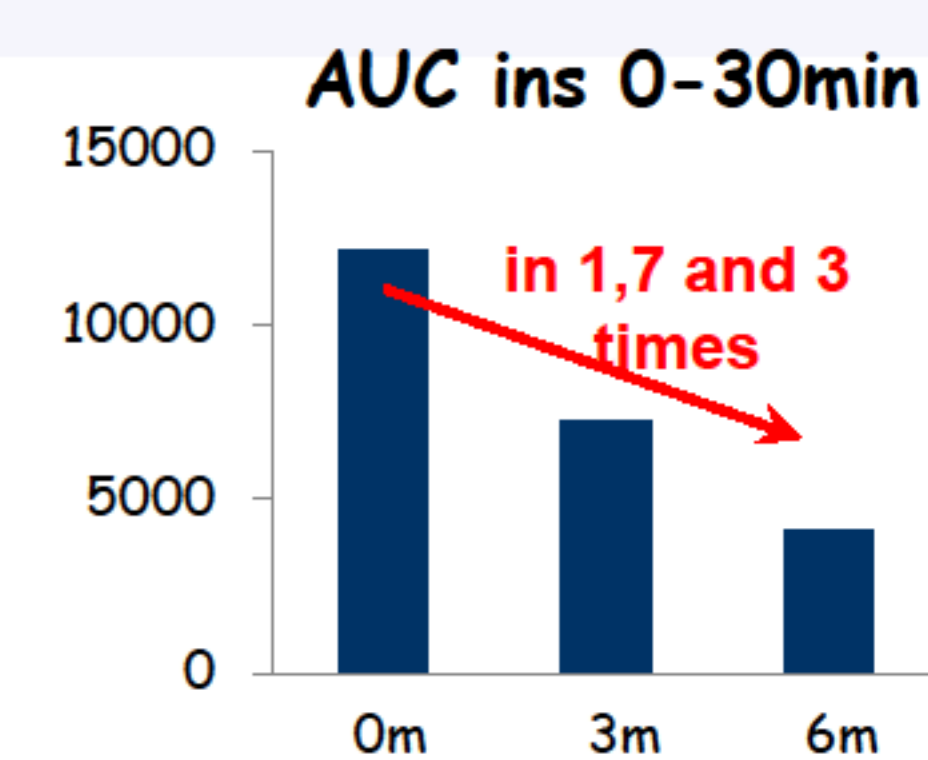
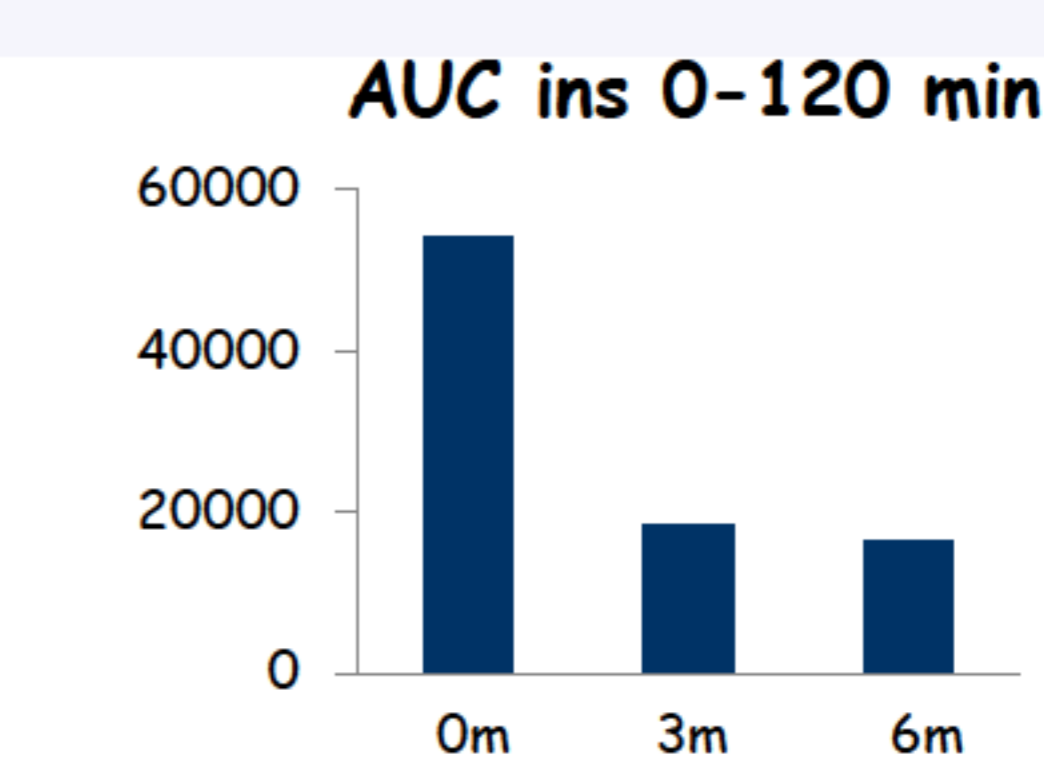
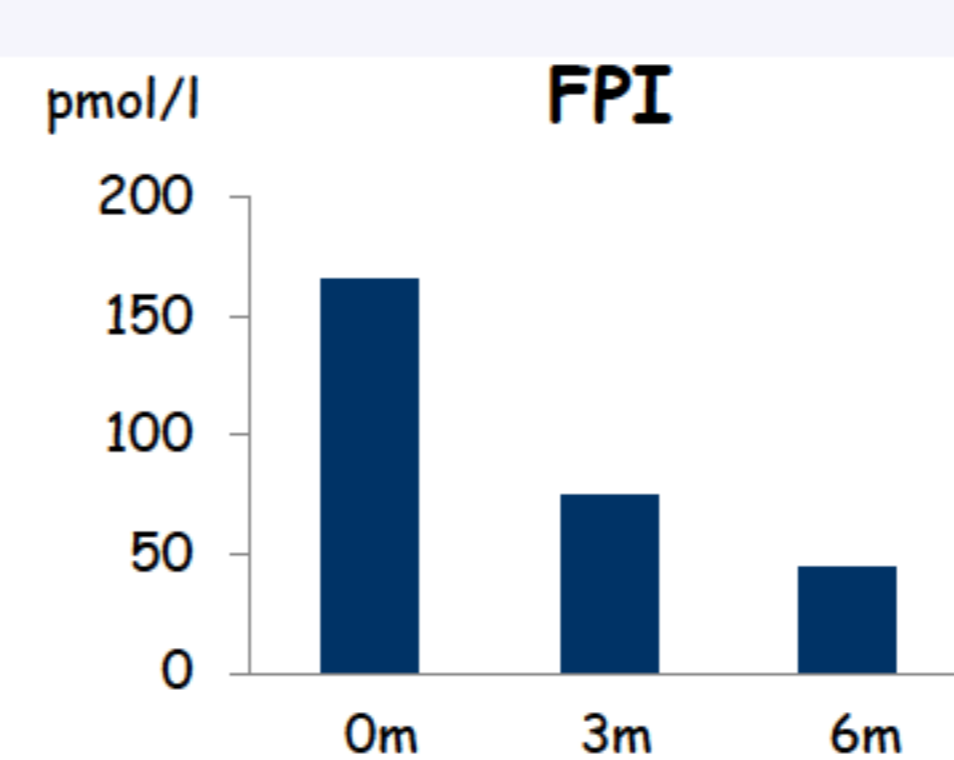
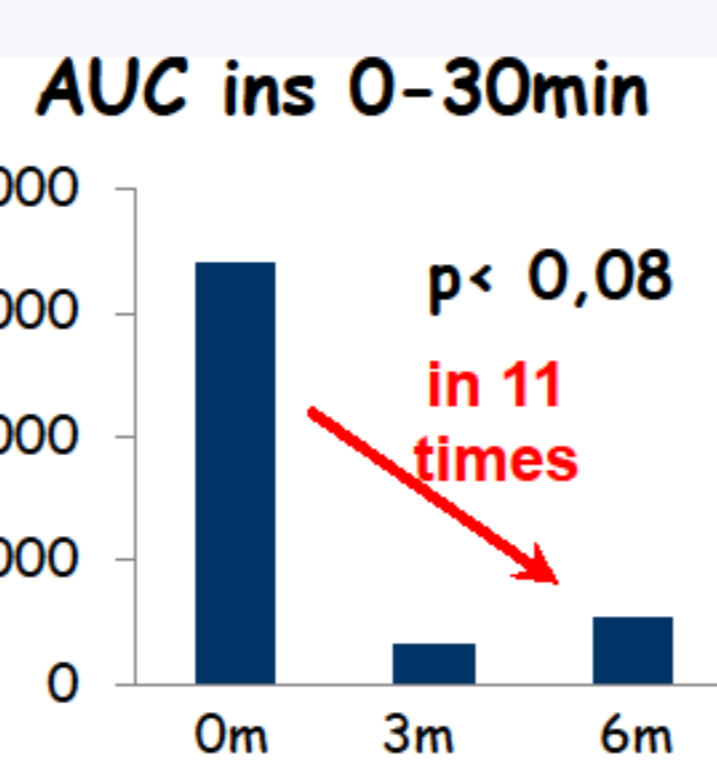
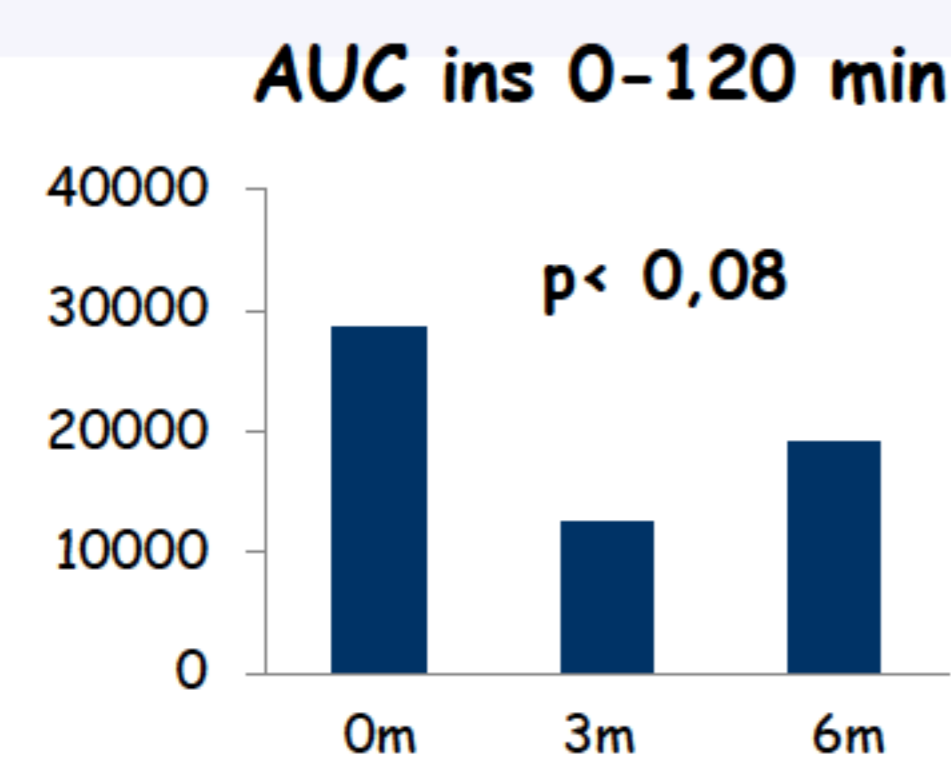
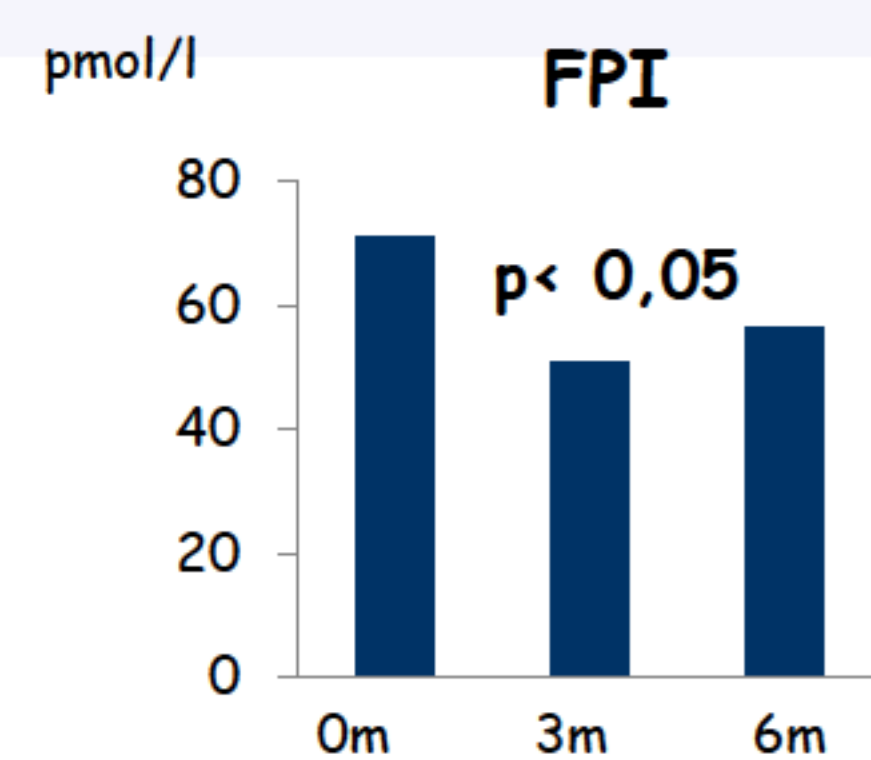
SOMATOSTATIN ANALOGUES TREATMENT GROUP

TRANSSPHEOIDAL SURGERY GROUP

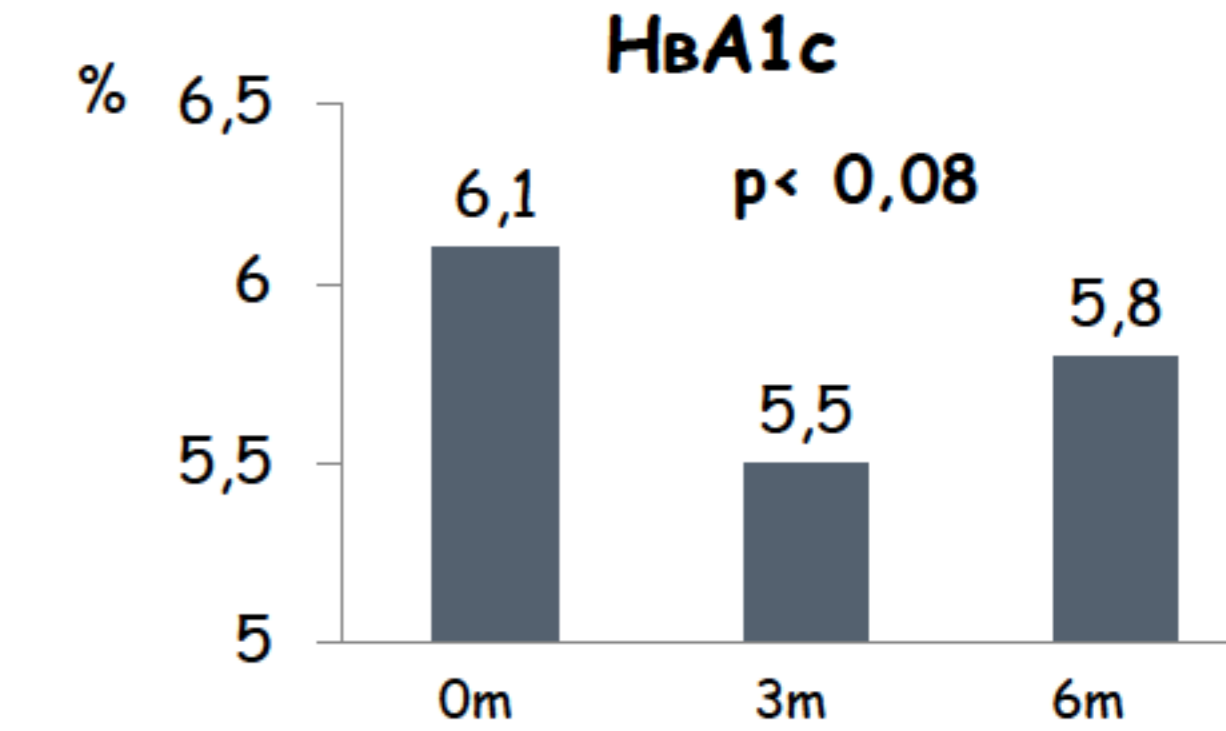
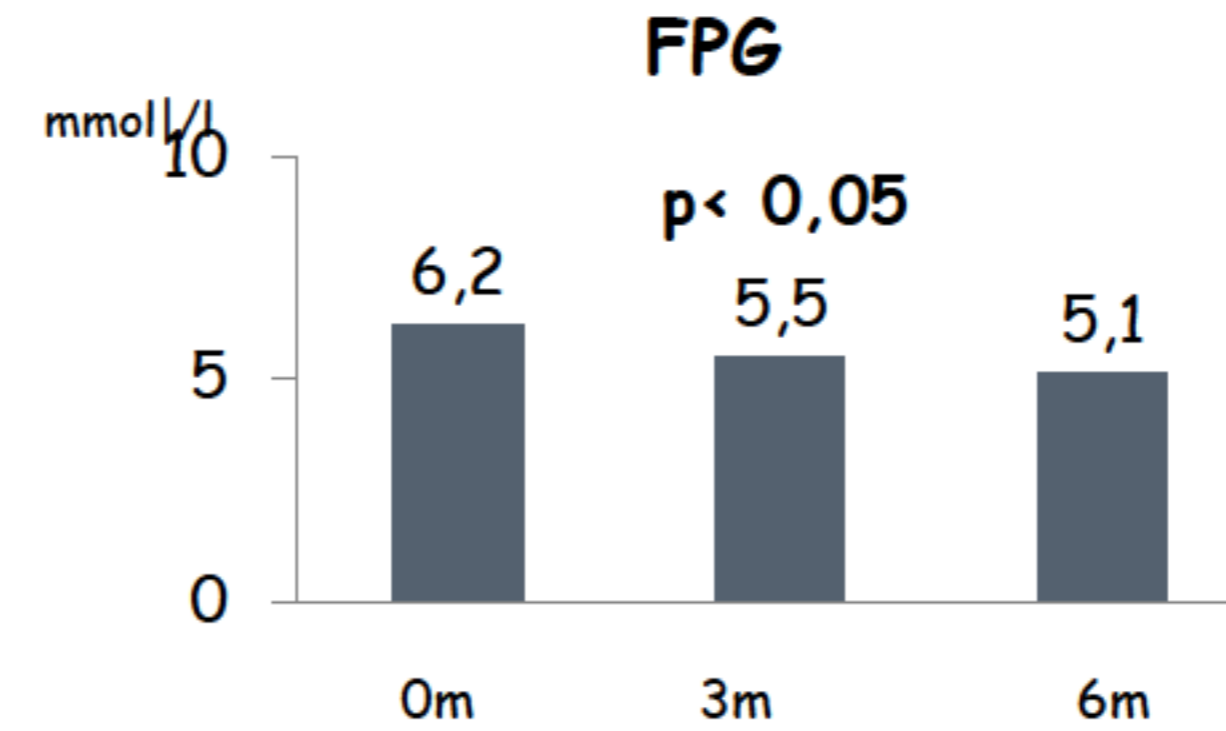
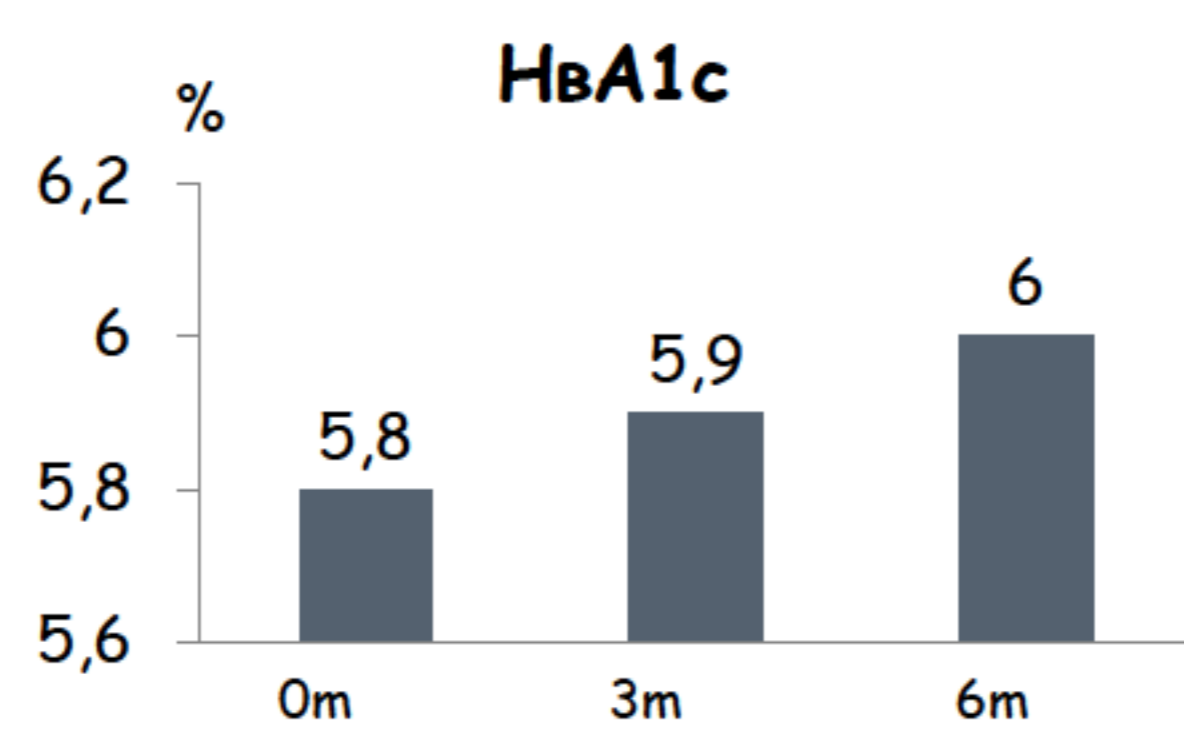
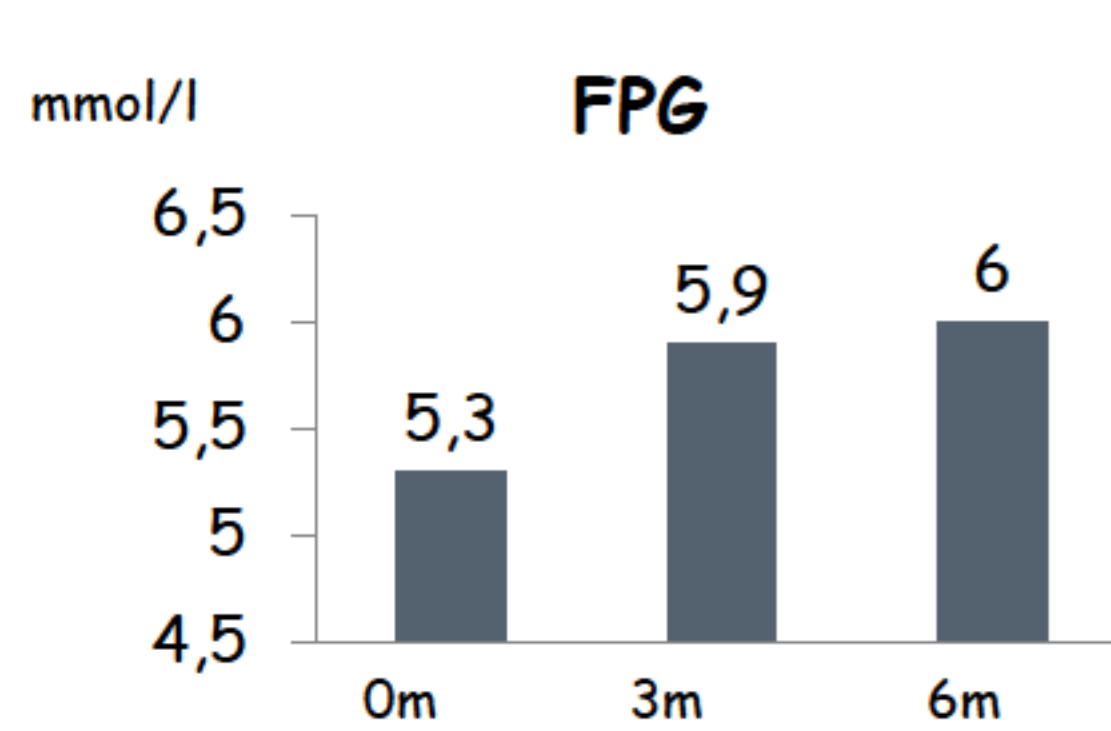
INDICES OF INSULIN RESISTANCE



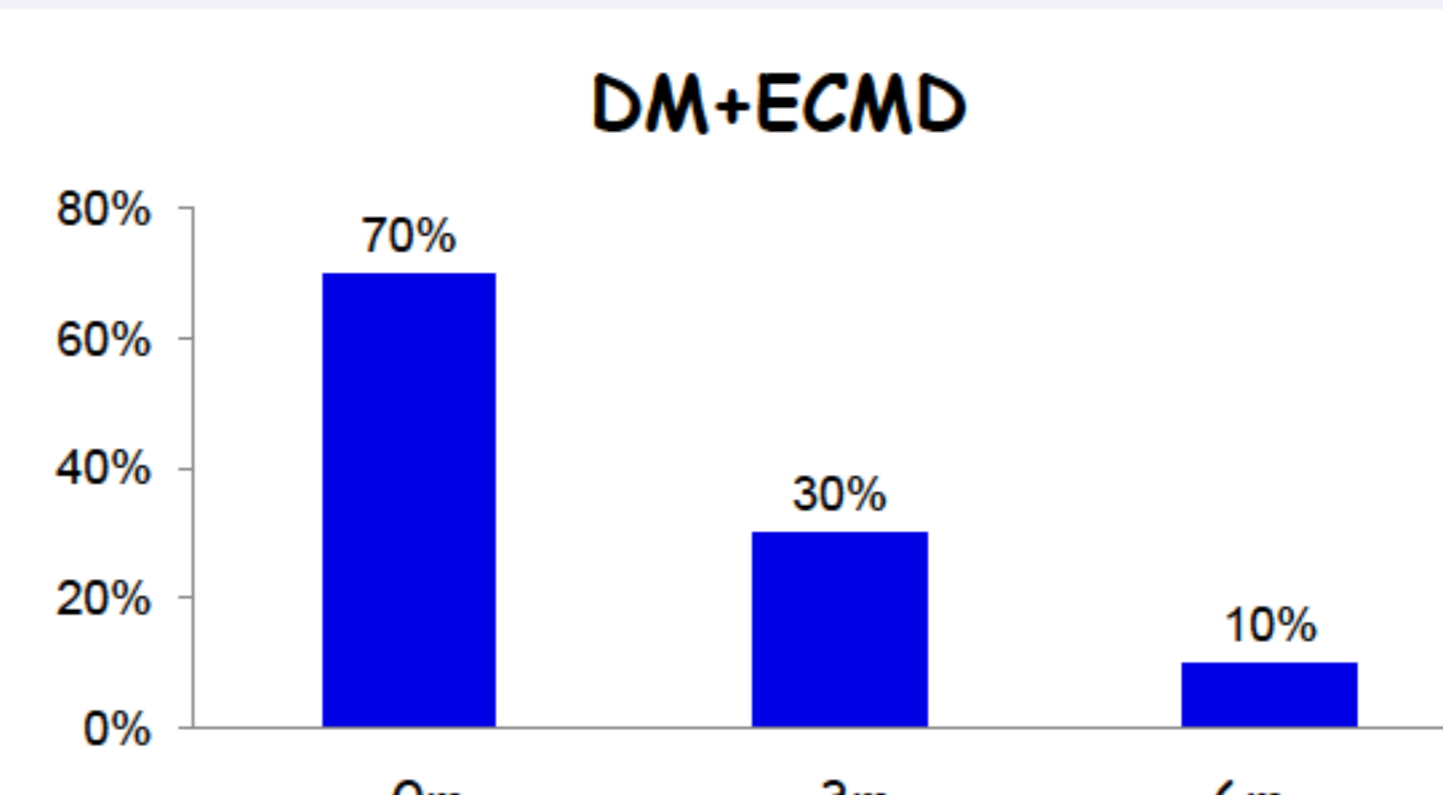
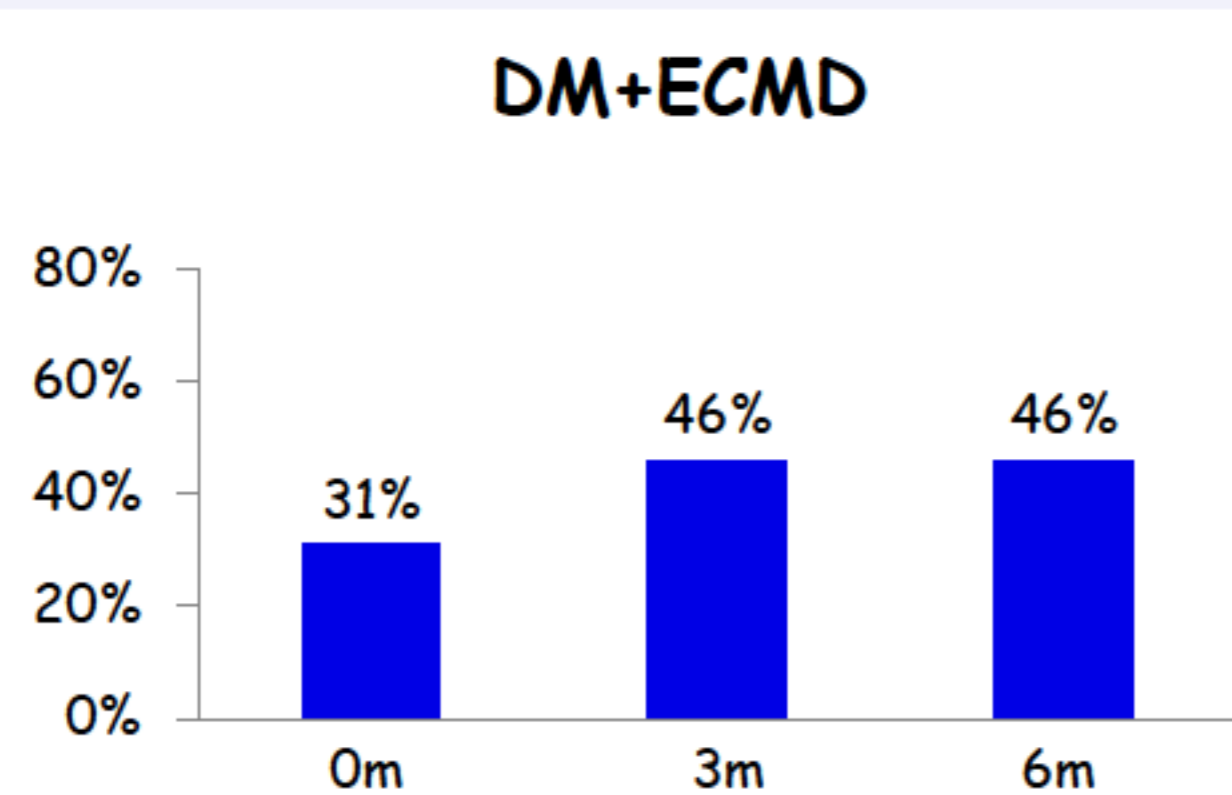
FASTING PLASMA INSULIN AND AREAS UNDER INSULIN CURVES



FASTING PLASMA GLUCOSE AND HbA1C



PREVALENCE OF DIABETES MELLITUS AND EARLY CARBOHYDRATE METABOLISM DISTURBANCE IN PATIENTS WITH ACROMEGALY



CONCLUSION

Despite reduction of IGF1 levels and insulin resistance during SSA therapy and after TSS, the decrease of the first phase of insulin secretion on SSA therapy leads to the development of carbohydrate metabolism disorders

CONTACT INFORMATION

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