

## ABSTRACT

Sarcoidosis is granulomatous disorder, with chronic course, than can affect any organ. As etiological moment is still behind the door, usual therapy are corticosteroids. Different option can be notified. Aim of the work: to obtain whether corticosteroid therapy can change the glyco-regulation in patients in which sarcoidosis had been previously histologically proved. Method: Analysis is prospective in Clinic for lung diseases and tuberculosis CC Serbia-Belgrade. Medicals histories and examinations, blood serum analyses, chest radiographs, profiles of glycaemias levels, BMI, blood serum activities of diseases had been obtained. Results: are from the medical documentation of 27 patients 20F/7M, average ages of 47.8 years; mean time of sarcoidosis duration were 2.87 years; In time of analysis had been obtained 13 patients were treated with prednisone, 8 were without therapies, 6 were on therapy methotrexat + prednisone; previously all were treated with corticosteroid therapy. Body mass index were normal in 7 patients, in 10- were high and in 10 patients-extreme high. Elevated levels of triglycerides and cholesterol were obtained in 20 patients. At the time of performed analysis in 2 patients high levels of morning glycaemia were obtained in 2 patients (8.2 ;8.4 mol/L) and after 120min high elevated levels of glycaemia were obtained in 7 patients while in only 2 of them glycaemia were 11 mol/L and 12.1 mol/L. Additional analyses had been obtained in Clinic for endocrinology due to Homa b and homa ir. The final results of this group obtained diabetes mellitus in 2 patients, while in 18 patients no impairments were notified. In the rest of patients, 7 of them, the impairment of glyco-regulation had been obtained (the maximum levels for glycaemia were 10.3mmol/L). Another surprisingly matter had been notified: different habits of food and water intake as long as physical activity. Conclusion: Controlling glycaemias levels in patients who are treating with corticosteroid therapy is obligatory along with preventing efforts regardless healthier habits.

## INTRODUCTION

- Corticosteroids could be used during the granulomatous process in sarcoidosis. (WASOG: Statement on Sarcoidosis--the therapy of choice).
- The main reason for corticosteroid therapy is reducing the granulomas formation that can lead to symptoms regressions, improvement of lung function...
- If corticosteroids cannot be administered, other medicines are used (Methotrexat, Chloroquine). These medicines can be used also in combination with Prednisone.
- But, corticosteroid therapy may cause depression, psychosis, early osteoporosis, uncontrolled body weight gaining, hyperglycemia and diabetes mellitus.

## AIM OF THE WORK

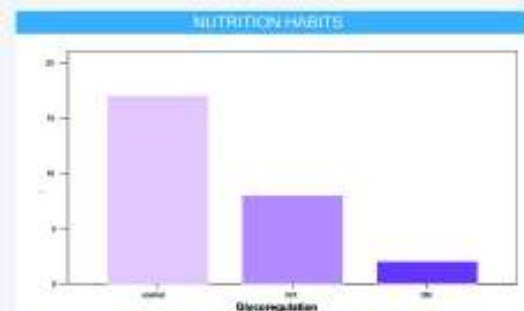
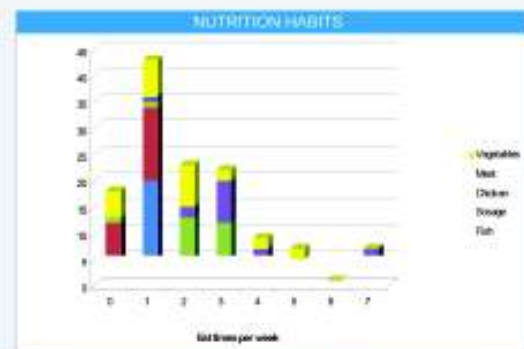
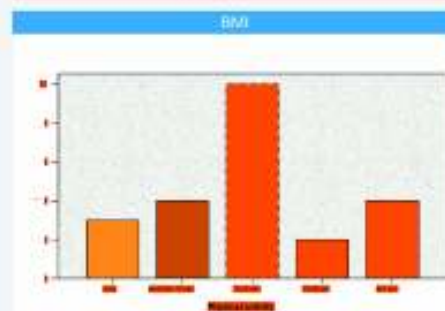
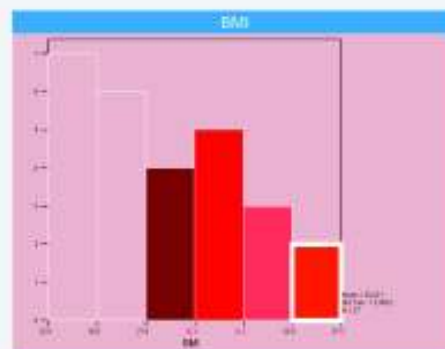
To obtain whether corticosteroid can change the **Glyco Regulation** in patients in which sarcoidosis had been previously histologically proved.

## METHOD

Analysis is prospective on incoming patients to the Clinic for lung diseases and tuberculosis of Clinic Centre of Serbia. All necessitates such as: clinical symptoms and signs, blood serum analyses, chest radiographs, serum blood glycaemia during 24h, BMI, marker of disorders activity, were included in analyses as well as Homa b and homa ir.

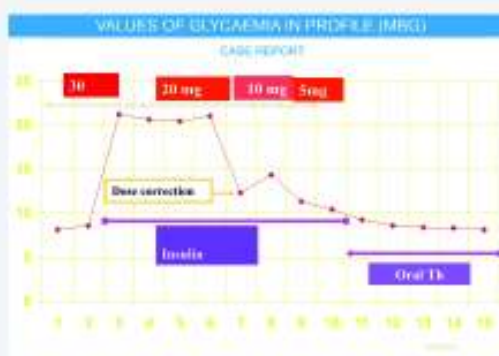
## RESULTS

•At the time of analysis had been taken in 2 patients high levels of morning glycaemia were obtained (8.2 ;8.4 mol/L) and after 120min high elevated levels of glycaemia were obtained in 7 patients while in only 2 of them glycaemia were 11 mmol/L and 12.1 mol/L. Additional analyses had been obtained in Clinic for endocrinology due to Homa b and homa ir. The final results of this group were obtain diabetes mellitus in 2 patients, while in 18 patients no impairments were notified. In the rest of patients, 7 of them, the impairment of glyco-regulation had been obtained (the maximum levels for glycaemia were 10.3mmol/L). 27 Patients-20 F / 7 M gender ratio average ages -47.8 years. Sarcoidosis duration were 2.87 years (average time) In time of analysis had been obtained, the delivering therapy were as followed: Prednisone 20 mg/daily- 13 patients, Methotrexat 7.5 mg - prednisone 10mg - 6 patients, Without therapy -8 patients. Previously, all were treated with corticosteroid therapy for 7 months.



## DISCUSSION

- Glucocorticoides increases insulin need and can precipitate glucose intolerance up to manifestation of clinical form of diabetes or worsen already existed diabetes. (J.D Baxter)
- Glucocorticoids change metabolism of carbohydrates by increasing gluconeogenesis and by preventing peripheral glucose utilization. However, in patients on glucocorticoid therapy with sub clinical or manifested diabetes, significant clinical problems with hyperglycemia are unusual. In most of the patients glycoemia level on fasting is normal or slightly increased if the glucose tolerance is impaired.
- In patients with sub clinical or manifested diabetes, corticosteroid therapy can cause or worsen hyperglycemia.
- In patients with pre receptor insulin resistance caused by insulin antibodies, corticosteroid therapy can be even useful due to its immunosuppressive role (Tyrrell B)
- There are no certain data about diabetes incidence caused by corticosteroid influence, since these medicines can influence other metabolic and non metabolic disorders in patients.
- In population with normal glucose tolerance, after corticosteroid therapy, in 2.7% of patients impaired glucose tolerance is expressed, while in population of patients with family diabetes predisposition in 24% of patients diabetes is expressed.
- Asymptomatic genetic factor or impaired glucose tolerance (IGT) increases the risk for acute steroid diabetes ten times (Richard JC). This kind of disorder can be detected just several hours after administering corticosteroids. (Caldwell JR et al, 1991).
- Glucose utilization in fat and muscular tissue is reduced due to insulin resistance of direct steroid influence. Corticosteroid therapy causes endogen insulin secretion, which leads to diabetes.



## CONCLUSION:

These data suggest that sarcoidosis and diabetes problem could be considered in two direction.

- in diabetics with sarcoidosis requiring corticosteroids, glyco-regulation should be monitored and when needed in sarcoidosis therapy an alternative therapy should be used.
- it is necessary to control glyco-regulation of patients with sarcoidosis who are treated by corticosteroids in the sense of early diabetes diagnosis regarding the lack of any certain markers suggesting which patients will be affected by impaired glucose tolerance or diabetes mellitus type2.

It is very important to changing other risk factors for impaired glucose tolerance, like obesitas, nutrition habits, fizical inactivity...