

Gout, as the precipitating factor of the 2 type diabetes
**Kadomtcev D.¹, Pasechnikova E.², Golubev V.³, Plotnikova V.⁴, Sharov M.–D.⁵,
Evtyh B.⁶, Belgusheva A.⁷, Nabahu F.⁸, Huako F.⁹ (Russian Federation)**
Подагра, как провоцирующий фактор развития сахарного диабета 2 типа
**Кадо́мцев Д. В.¹, Пасечникова Е. А.², Голубев В. Г.³, Плотникова В. В.⁴,
Шаров М.–Д. А.⁵, Евтых Б. Р.⁶, Бельгушева А. Р.⁷, Хабаху Ф. Ю.⁸, Хуако Ф. Ш.⁹**
(Российская Федерация)

¹Кадо́мцев Дмитрий Вадимович / Kadomtcev Dmitry – студент;

²Пасечникова Елизавета Александровна / Pasechnikova Elizaveta – студент;

³Голубев Владислав Григорьевич / Golubev Vladislav – студент,
лечебный факультет;

⁴Плотникова Виталия Владимировна / Plotnikova Vitaliya – студент;

⁵Шаров Михаил – Дмитрий Альбертович / Sharov Mihail – Dmitriy – студент;

⁶Евтых Бэлла Руслановна / Evtyh Behlla – студент;

⁷Бельгушева Алена Робертовна / Belgusheva Alena – студент;

⁸Хабаху Фатима Юнусовна / Nabahu Fatima – студент;

⁹Хуако Фатима Шамсудиновна / Huako Fatima – студент,
педиатрический факультет,

Федеральное государственное бюджетное образовательное учреждение высшего образования
Кубанский государственный медицинский университет, г. Краснодар

Abstract: *the aim of this work is to establish the causal relationship between such diseases as the 2 type diabetes and gout, using the materials of the rheumatology department of the Research Institute - Regional Clinical Hospital №1 named after Professor S.V. Ochapovsky. We used retrospective analysis, studying 20 medical records from 2014 to 2015. The results of this study allow us to state that the most susceptible to this disease are males and gout is the provoking factor in the development of the 2 type diabetes, cause of the number of cases when gout is the primary and basic disease.*

Аннотация: *сахарный диабет 2 типа и подагра представляют собой хронические метаболические заболевания, характеризующиеся преимущественным нарушением углеводного обмена и обмена мочевой кислоты. Нами было проведено исследование на базе ревматологического отделения ГБУЗ НИИ ККБ №1 им. Проф. Очаповского с целью установления причинно-следственной связи между такими заболеваниями как сахарный диабет второго типа и подагра. В ходе исследования нами были сделаны следующие выводы: сочетание в анамнезе подагры и сахарного диабета 2 типа является довольно частым явлением в клинической практике. Результаты данного исследования позволяют нам утверждать, что наиболее подвержены данным заболеваниям представители мужского пола, а также то что количество случаев, когда подагра является первичным и основным заболеванием превалирует, позволяет предполагать, что подагра может являться провоцирующим фактором развития СД 2 типа.*

Keywords: *gout, insulin resistance, hyperuricemia.*

Ключевые слова: *подагра, инсулинорезистентность, гиперурикемия.*

Introduction

Gout and diabetes are the chronic metabolic diseases, mainly characterized as a contravention of carbohydrate and uric acid metabolism. The detection rate of gout of patients, suffering from the 2 type, diabetes is rather low and amounts 1% [1]. The direct diabetogenic effect of the uric acid is making an influence on the genesis of the carbohydrates metabolism contravention. A number of literary sources indicate that hyperuricemia and gout may precede the 2 type diabetes. At the same time, insulin resistance is one of the major pathogenetic links of the 2 type diabetes. It causes a compensatory hyperinsulinemia, the depletion of the compensatory allowance of pancreatic beta cells, which leads to the 2 type diabetes [2]. It is real fact, that the combination of hyperuricemia, gout and hyperinsulinemia is not a coincidence. The priority in the development of these pathologies is attached to insulin resistance and hyperinsulinemia [3].

Background

The aim of this work is to establish the causal relationship between such diseases as the 2 type diabetes and gout, using the materials of the rheumatology department of the Research Institute - Regional Clinical Hospital №1 named after Professor S.V. Ochapovsky.

Methods

We used retrospective analysis, studying 20 medical records from 2014 to 2015. The method of observation and comparison was also used. The object of research is the influence of gout on the development of the 2 type

diabetes. Gout of the middle severity was the main disease of all the patients. 39% of patients suffered from the 2 type diabetes (100%) and moderate hypothyroidism (10%). The duration of diabetes varies from 3.4 to 5.5 years. The 2 type diabetes was first raised in 39% of cases. Gender structure was presented like this: men - 65% women - 35%. We used the diagnostic criteria of WHO in the diagnosis of the 2 type diabetes. All patients with gout and the 2 type diabetes were examined by endocrinologist. The survey list included the following links: biochemical tests, considered indicators of blood pressure (hypertension is diagnosed during daytime, when systolic value is above 140 mm Hg in blood pressure and diastolic one is above 90. mm Hg. Art.) and the calculation of the body weight index. The treatment plan included non-steroidal anti-inflammatory drugs, hormone therapy, vascular therapy and antihypertensive drugs.

Results

We got the following results of biochemical indicators: 1. All the studied patients had hyperuricemia, which varies from 500 to 682 mmol / l. A steady decline in the level of uric acid (420 - 450 mmol / l in 75%, less than 420 umol / L in 25%) was noted at the time of discharge from the hospital; 2. 74% of patients were in the state of sub-compensation of carbohydrate metabolism, characterized as low hyperglycemia; 3. CRP level exceeded the value of the norm, which is obviously due to the inflammatory process associated with the disease; 4. The level of glycosylated hemoglobin was higher than 6.5% that testifies about diabetes, as well as the possible risk of developing complications. Also, 70% of the patients had the various metabolic abnormalities: arterial hypertension - 65%, visceral obesity - 35%. Various sources indicate a close relationship between the metabolic syndrome, which include symptoms such as insulin resistance and hyperinsulinemia, hypertension, impaired glucose tolerance, hyperuricemia, abdominal-visceral obesity. The combination of such pathologies within the above syndrome significantly accelerates the development and progression of atherosclerosis. The presence of visceral obesity means the insulin resistance because it is one of the most important diagnostic criteria of it. Several studies also indicated a direct correlation between hyperuricemia and insulin resistance.

Conclusions

A combination of gout and the 2 type diabetes is a fairly frequent occurrence in clinical practice. The results of this study allow us to state that the most susceptible to this disease are males and gout is the provoking factor in the development of the 2 type diabetes, cause of the number of cases when gout is the primary and basic disease. It's important to clarify the pathogenetic role of insulin resistance in the development of the 2 type diabetes in the further research.

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