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EP571**Analysis and metabolic evaluation in a standard clinical setting of a group of patients 7 years after a clinical trial with sensor-augmented pump (SAP)**

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Background and objective

Several trials showed that sensor-augmented pump (SAP) therapy is safe and effective to reduce hypoglycemic events and improve glycaemic control with high treatment satisfaction. Nevertheless patient adherence and sensor use in trials usually decrease with time. Our objective was to evaluate metabolic control and adherence and sensor use after initiation of SAP in a clinical trial.

Methods

In 2008 we recruited 25 patients in treatment with insulin pump (CSII) to start SAP for 6 months. After the trial the patients had the opportunity to maintain the SAP treatment, but only 15 patients did desire to go on with SAP therapy despite a high global evaluation of the device. We evaluate the 25 patients again 7 years after returning to clinical trial.

Results

Seven years after returning to standard clinical care, only 5 of the 25 patients (20%) were still continuously using the sensor. The HbA1c in patients with SAP was $6.9 \pm 0.4\%$ and in patients without SAP was $7.3 \pm 0.4\%$ without statistically significant difference. The patients in SAP therapy made 6.3 ± 0.8 SMBG tests per day and in the no SAP group the number of SMBG per day was 4.9 ± 1.4 ($P=0.04$). No statistically differences were found in quality of life between SAP and no SAP group. Patients in SAP therapy were using it mean 60% of the time. Most problems about SAP use were referred with accuracy and daily life interference (no SAP group).

Conclusion

Our results show that in a standard clinical setting still long time benefits can be found in type 1 diabetes patients treated with SAP after a clinical trial. Nevertheless, new strategies to improve patient adherence to SAP should be developed.

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EP572**Ameliorative effects of *Treculia Africana* aqueous seed extract on hyperglycemia and testicular histopathological alterations in alloxan-diabetic rats**

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Introduction

Treculia Africana (TA) has been used as an anti-inflammatory agent by the Yoruba people of West Africa and is also known to be a component of an ancient anti-diabetic remedy used in the Western and Middle belt areas of Nigeria. This study was conducted to investigate the anti-hyperglycemic property of the aqueous seed extract of *Treculia Africana* (TAE) and also to evaluate the potential of this extract in reversing the toxicity inflicted by experimentally-induced diabetes on the testes.

Methods

Twenty adult male Sprague-Dawley rats were randomly divided into four groups (A-D) of five rats each. Groups A, B and C were injected with alloxan while Group D served as the normal control and received distilled water only. After 4 weeks of sustained hyperglycemia, groups A, B, and C rats were administered TAE (200 mg/kg per day), glibenclamide (10 mg/kg per day) and distilled water, respectively. Body weight and blood glucose concentrations were evaluated. At the end of 8 weeks all animals were sacrificed and the testes were processed for light microscopy.

Results

TAE caused significant reduction (36.27%) in blood glucose concentration at $P<0.001$ compared to the diabetic control, while glibenclamide caused 70.61% reduction. The weight of the testes of TAE-treated rats showed significant increase compared with the untreated diabetic group. The distorted seminiferous tubules of the diabetic control rats had just a few scattered spermatogonia and

spermatids while the testes of the TAE-treated diabetic rats showed seminiferous tubules lined by Sertoli cells, with relatively normal germinal epithelium. Stereologic analysis showed increased germinal epithelial thickness, cross-sectional area and volume for treated groups compared to the diabetic control group.

Conclusion

Histologic and stereologic analysis indicate that TAE would be a good adjunct in the treatment of diabetes mellitus associated with reproductive deficiencies.

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EP573**The influence of α -lipoic acid on endothelial dysfunction and adipokines balance in patients with type 2 diabetes and essential hypertension in the presence of unfavorable genetic polymorphism**

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The aim

To establish unfavorable genetic polymorphisms on the development of comorbidity of DM2 and EH in Ukrainian population and to evaluate the effectiveness of α -lipoic acid appointment (α -LC) in complex therapy in patients with 3-4 crossed unfavorable genetic polymorphisms.

The primary examination of 167 patients with DM2 in combination with EH showed that A/C and C/C genotypes of AGTR1, Pro/Pro genotype of PPAR γ 2, Arg/Arg and Gly/Arg genotypes of IRS-1, T/T and C/T genotypes of TCF7L2 are characterized by more severe hemodynamic and metabolic disorders, cardiovascular remodeling, thus, these genotypes can be regarded as unfavorable genotypes that are associated with the development of comorbidity. It was proved that in 96 patients with 3-4 crossed unfavorable genetic polymorphisms the severity of these disorders was greater than in 71 patients with 1-2 crossed unfavorable genotypes. Among 96 patients with 3-4 crossed unfavorable genetic polymorphisms two groups were distinguished: 47 patients received standard therapy and 49 patients additionally received α -LC (600 mg/day) for 3 months. It was established that the appointment of α -LC contributed to a more pronounced effect on endothelial dysfunction (ED) that confirmed a greater degree of endothelium-dependent vasodilation and higher levels of oxidative indicators stress (diene conjugates and malondialdehyde) in the inhibition of antioxidant system parameters (superoxide dismutase and catalase) ($P<0.001$). Furthermore the additional appointment of α -LC impacted more to the functioning of adipose tissue, which showed a more pronounced decrease in leptin ($P<0.001$) and increase in adiponectin ($P<0.01$), compared to basic therapy.

Conclusions

A/C and C/C genotypes of AGTR1, Pro/Pro genotype of PPAR γ 2, Arg/Arg and Gly/Arg genotypes of IRS-1, T/T and C/T genotypes of TCF7L2 are associated with the development of comorbidity of DM2 and EH. The additional α -LC appointment to standard therapy impacted more to the severity of ED and adipokines balance than basic therapy.

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EP574**Role of community pharmacists in the prevention and management of the metabolic syndrome in Albania**

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Background

The metabolic syndrome is a cluster of diabetes and cardiovascular risk factors and its prevalence is alarmingly high in Albania, affecting nearly 20% of the adult population. There is lack of information about the role of community pharmacists in the care of patients with the metabolic syndrome.

Objective

To assess the awareness and opinions of community pharmacists about the metabolic syndrome and identify the services they provide for identification, management and monitoring of patients with the metabolic syndrome.