

Effect of controlling cardiometabolic risk factors on the course of type 2 diabetes mellitus in Egyptian patients

Hanaa Tarek El-Zawawy, Magdy Mohamed Allam

Alexandria University, Egypt

Background

Over the past decade, the prevalence of type 2 diabetes mellitus has greatly increased all over the world and particularly in Egypt. This is believed to be related to the recent increase in cardiometabolic risk factors (CMR) in Egyptian patients. Thus it was interesting to study the effect of controlling CMR on the course of diabetes mellitus in Egyptian patients with type 2 diabetes.

Aim of the work

To investigate the effect of controlling cardiometabolic risk factors (CMR) on the course of type 2 DM in Egyptian patients.

Patients and methods

This study is a retrospective cohort study which included 512 patients between the year 2014 and 2017 who were divided into three groups (Group A: Patients with improvement in type 2 DM, Group B: Patients with no improvement). Subjects with: Type 1 DM, history of bariatric surgery, and those maintained on hyperglycemic drugs (eg. Steroids) were excluded. Data in this analysis were collected from records at the first visit to detect CMR including; males >55 years or females >65 years, hypertension, dyslipidemia (total s-cholesterol > 200 mg/dl, HDL <40 mg/dl or LDL >160 mg/dl), cigarette smoking, obesity, serum creatinine >2 mg/dl, and family history of atherosclerotic cardiovascular disease in a first degree relative (parents, siblings or brothers) before the age of 40 years in males and 50 years in females. All patients were motivated to life style modification.

Results

In group A; we found that controlling CMR mainly smoking (71%), dyslipidemia (59%), and hypertension (48%), resulted in a significant improvement in diabetes. Regression analysis showed a significant inverse association between degree of improvement and the number of controlled CMR. After adjusting for demographic and clinical characteristics, Cox proportional

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***Corresponding author:** Hanaa Tarek El-Zawawy, Magdy Mohamed Allam Email: hanaaelzawawy@yahoo.com

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hazards model and Receiver operating characteristic (ROC) curve analysis revealed that zero or one CMR is associated with T2DM total remission especially among younger patients (<50years), female sex, non-smokers, patients with shorter duration of diagnosis

of DM (<5.2 years), lower baseline HbA1c level (<8.5%) and higher HDL (>45.6 mg/dl).

Conclusion

Controlling the cardiometabolic profile in Egyptian patients with type 2 diabetes can offer a cost-effective approach to managing diabetes.