Prevalence of hypercortisolism in Type 2 Diabetes patients: a systematic review and meta-analysis

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Background: Type 2 Diabetes and Cushing’s syndrome share clinical characteristics such as insulin resistance, hyperglycemia, hypertension, dyslipidemia and obesity. Several small studies have recorded a high prevalence of hypercortisolism in T2D. This could have therapeutic implications.

Objectives
- To perform a systematic review and meta-analysis on the prevalence and clinical characteristics of endogenous hypercortisolism in T2D patients.

Methods
- Original articles assessing the prevalence of endogenous hypercortisolism in T2D were eligible.
- A search was performed in SCOPUS, MEDLINE and EMBASE.
- Data were pooled in a random effects logistic regression model and reported with 95% confidence intervals (95% CI).

Results
- Fourteen articles were included, with a total of 2827 T2D patients.
- The pooled prevalence of hypercortisolism was 3.6% [95% CI: 3.0-4.4].
- The prevalence did not differ between studies of unselected patients and patients selected based on presence of metabolic features such as obesity or poor glycemic control (p=0.41 from meta-regression).
- Imaging in patients with hypercortisolism (n=102) revealed adrenal tumors and pituitary tumors in 14% and 52%, respectively.

Conclusion
- Hypercortisolism is a relatively frequent finding in T2D.
- A substantial proportion of the cases also presented with adrenal or pituitary neoplasia, which could provide the basis for surgical intervention.
- These findings should not be ignored and controlled trials should be considered.

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