Effect of Rosiglitazone on early-morning plasma cortisol levels

Jolanta Kunert-Radek & Marek Pawlikowski

Chair of Endocrinology, Medical University of Lodz

Correspondence to: Professor Jolanta Kunert-Radek, Chair of Endocrinology, Medical University of Lodz, Sterling str 3, 91-425 Lodz, POLAND
EMAIL: neuroendo@csk.umed.lodz.pl

Submitted: December 8, 2005 Accepted: December 8, 2005

Key words: plasma betacarotene; Alzheimer’s disease; cerebrospinal fluid; beta-amyloid 1-42; beta-amyloid 1-40; total Tau; MMSE; anti-amyloidogenic; diet

The study by Catrina et al. published in this issue, showing that the long-term treatment of diabetic patients with PPAR gamma agonist rosiglitazone failed to affect the morning cortisol levels seemingly stays in opposition with our [1] and other earlier data concerning in vitro effects of rosiglitazone on animal pituitary tumors. However, several important points should be taken into consideration.

First, our study was performed on cells isolated from the estrogen-induced rat pituitary tumor which is an animal model of prolactinoma but cannot be considered as a model of human ACTH-secreting pituitary adenoma.

In the other paper from our laboratory [2] we studied the immunohistochemical expression of nuclear PPAR gamma receptors in human pituitary adenomas. We found the highest rate of PPAR gamma-immunopositive cell nuclei in GH-secreting and PRL-secreting adenomas, whereas ACTH-secreting adenomas presented rather low expression (albeit higher then normal anterior pituitary gland). It could mean that ACTH-secreting tumors are rather not good candidates for trials of rosiglitazone treatment.

Moreover, the study by Catrina et al. included the patients with type 2 diabetes but not the patients with Cushing’s disease. It means that their data refer rather to the non-tumoral corticotrophs. It cannot be excluded that non-tumoral corticotrophs differ from tumoral cells in their reaction to PPARgamma agonists. It is worth recalling that PPARgamma expression is higher in pituitary adenomas (including ACTH-secreting) in comparison to the non-tumoral anterior pituitary gland [2,3].

Raising the problems in the letter of Catrina et al. allowed us to make our discussion richer and explain some aspects not mentioned in our paper so far.

REFERENCES