Re: Effects of rosiglitazone on hormonal profile and ovulatory function in Chinese women with polycystic ovary syndrome

Polycystic ovary syndrome (PCOS) is a disorder characterised by chronic anovulation, hyperandrogenism and hyper-insulinaemia. Treatment using insulin-sensitizing agents had yielded promising results. Rosiglitazone is a relatively new insulin-sensitizing agent belonging to the thiazolidinedione class. There are only limited data concerning the therapeutic efficacy of rosiglitazone in women with PCOS, especially in a Chinese population.

We conducted a prospective observational study to evaluate the effects of rosiglitazone in seven Chinese women with PCOS (defined by the National Institutes of Health (NIH) criteria). The study consisted of four menstrual cycles. The first cycle was observational only without any treatment. Rosiglitazone 4 mg daily was given throughout the second to fourth cycles. Pre- and post-treatment hormonal and biochemical profiles were compared by the paired t-test.

The mean age and body mass index were 28.1 years and 24.5 kg/m², respectively. After rosiglitazone therapy, there was a significant increase in day 21 progesterone levels (2.3 ± 0.7 vs. 12.5 ± 8.4 nmol/L, P = 0.019) and a significant reduction in luteinizing hormone to follicular stimulating hormone ratios (1.3 ± 0.8 vs. 0.7 ± 0.5, P = 0.049). Three out of seven (42.9%) cycles required progesterone induced withdrawal before commencement of rosiglitazone; this reduced to 3 out of 21 cycles after treatment (14.3%) (P = 0.14). There were no differences in free testosterone (T), androstenedione, dehydroepiandrosterone sulphate, sex hormone binding globulin, fasting insulin and glucose before and after treatment. There is also no significant difference in hirsutism score and acne score before and after rosiglitazone therapy.

Recent studies suggested that rosiglitazone is effective in correction of hyperandrogenism and reversal of anovulation in women with PCOS. However, these data mainly studied Caucasian patients. Because there are known differences in presentation and biochemical profile of PCOS patients of different ethnic origins, we conducted the present study to evaluate the effects of rosiglitazone in Chinese women.

In the present study, we found that there is a significant increase in luteal phase progesterone levels and reduction of luteinizing hormone/follicular stimulating hormone ratios after rosiglitazone therapy. This translates to a higher percentage of spontaneous menstruation without the need of progesterone withdrawal therapy, although the difference did not reach statistical significance because of the small number. However, there was no significant change in male hormonal profile after rosiglitazone therapy. Similarly, in the study by Ghazeeri et al., treatment with rosiglitazone resulted in the resumption of ovulation but no significant changes in testosterone and dehydroepiandrosterone sulphate. On the other hand, significant reduction in androgen levels was reported in other recent studies. The lack of change in androgen levels in our study may be the result of the small sample size or ethnic different in participants; further studies are required to explore this area.

Nevertheless, the present study shows that the use of rosiglitazone may lead to the resumption of ovulation and menstruation in Chinese women suffering from PCOS. Although the present study involves only a small number of patients, it shows that the option of rosiglitazone is feasible, and further study with a larger sample size and longer follow-up to evaluate the effects of rosiglitazone alone in PCOS women would be worthwhile.

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References


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Letters to the Editor

Re: Comparison of cerebral magnetic resonance and electroencephalogram findings in preeclamptic and eclamptic women

The interictal electroencephalograph (EEG) findings reported in eclampsia vary from normal to focal and diffuse slowing and epileptiform activity.1,2 This is certainly an area where more data are needed. Although Osmanağaoğlu et al’s study was unable to reach any clinically useful conclusions,3 correlating magnetic resonance (MR) with EEG findings and combining them to try and determine prognosis in these patients are potentially valuable.

However, Osmanağaoğlu et al. did not describe a number of important features of their EEG findings. These include a description of the nature of the epileptiform activity and the slowing of the EEGs, their topography (i.e. distribution of these abnormalities), their intensity and whether the abnormalities were intermittent or persistent. For example, ‘diffuse slowing’ is a very limited description of an EEG abnormality. The method of EEG reporting was absent. It is essential also to know whether the person reading the EEG was already aware of the MR findings.

Unfortunately, although MRI (magnetic resonance imaging) methodology and findings were clearly described, important technical EEG data were omitted, including the type of EEG apparatus used (N.B. Medelec and Nihon Kohden are unrelated companies), the number of EEG channels, a description of their modified International 10–20 System, electrode impedances, bandpass and sensitivities, the duration of each study and activation procedures performed, if any.

The absence of technical EEG information and an accurate description of the EEG findings have markedly limited the usefulness of this study.

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References


Authors’ reply

We thank Drs Kho LK and Dunne JW for their letter with regard to our published paper.1

The type of electroencephalogram (EEG) apparatus used was described in this study as Nihon Kohden, Japan. After discussion with the department of Neurology, we have found that the description of the EEG apparatus should be DG Examiner digital EEG (Medelec, Oxford, UK). This apparatus has been replaced with a new version and its manufacturer guide could not been found. Oral advice to us had, unfortunately, provided this incorrect company name.

The seizure activities on the recordings were visually labelled by a neurologist from the Neurosciences Department at our University.

All of the EEG examinations were recorded using the Medelec DG Examiner digital EEG machine (UK) and were performed by the same technician using high-frequency filter of 70 Hz, low-frequency filter of 0.5 Hz, and sensitivity of 10 µV/mm. The scalp electrodes were placed at 16 according to the International 10–20 system.2 Impedance was kept below 5 kΩ in all cases. A sampling rate of 256 Hz was used for digitisation and minimum recording length of each EEG-trace was 20 min in resting conditions. Analysed results were given in four different frequency bands (delta (δ), 0–4 Hz; theta (θ), 4–8 Hz; alpha (α), 8–12 Hz; and beta (β) > 13 Hz) as percentages of each frequency band. The EEG findings were analysed without knowledge of the MRI findings and the clinical diagnosis of the patients by the same neurologist.

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References