Reviewer's report

Title: Metabolic risk factors profile associated with use of second generation antipsychotics: a cross-sectional study in a community mental health centre

Version: 1 Date: 3 October 2005

Reviewer: Deanna L Kelly

Reviewer's report:

General

The paper presents a cross sectional study of the comparison of weight and metabolic parameters of an outpatients population with severe mental illness treated with second-generation antipsychotics to a population of outpatients with a diagnosis of hyperhydrosis. The paper attempts to help clarify the differences among the second-generation antipsychotics regarding metabolic differences. The addition of a comparison group was used to help compare the findings to those not treated with SGA medications. There are however some major limitations to this paper and furthermore, the data presented does not help fill in any gaps in the literature where evidence is missing. In fact the results of the CATIE trial with a population of over 300 in each of the antipsychotic groups gives us a better understanding of relative differences of risk among treatments. The concerns with the paper are listed below:

1) In the last section of the abstract background it would be worthwhile to point out what makes the purpose of the paper worthwhile and “new” as opposed to “evaluating the metabolic risk factor profiles with SGAs”

2) The comparison group with hyperhydrosis is interesting and may not represent a group representative as a normal control. Hyperhydrosis severe enough to be referred could be due to major medical complications associated with metabolic dysfunction, severe damage due to diabetes, panic attacks and anxiety disorders, among others. Also, persistent hypoglycemia can cause hyperhydrosis. Additionally, the weights were not present for this group, thus not permitting the assessment of weight to metabolic complications. Furthermore, this group, consisted of a population that was significantly younger and mostly female.

3) The antipsychotic medication groups consisted of patients with severe mental illness. It is known that different metabolic dysfunction may be associated differently in schizophrenia vs other medical disorders. New publications which will add to the existing literature need to be more stringently characterized in order to generalize risk to specific populations.

4) Abnormal BMI was characterized as a BMI over 30. This is the classification for obesity. The abnormal levels for lipids were those that are borderline high. Why then wasn’t “overweight” (BMI >25) considered?

5) As mentioned previously the younger age and female sex may be a major confound to the findings in the control group. Older men are more likely to have increases in metabolic measures and this then may add to the higher levels in the antipsychotic groups. The mean laboratory values do control for age, however the frequency of high levels occurring does not control for age and this may be hugely confounded.

6) How long was fast for fasting levels, not stated.

7) Some of the antipsychotic N's are very small; such is the case with clozapine. If this were an initial report in the literature and N=5 would be permissible. Due to the vast literature with much larger populations, these small samples cannot be regarded as conclusive.

8) Previous hospitalization status should be listed. For example, hospitalization may not be associated with healthy food and exercise options, thus recent hospitalization may confound the
findings of the weights and laboratories.

9) The conclusions state that this study was completed because independent studies which clearly define metabolic risk factor profiles were warranted. This paper however does not clearly define metabolic risk factors, albeit an independent study. The cross sectional nature does not control for many confounding variables which may affect the findings. Concomitant medications and many diagnoses are included. It is unknown if severity of illness differs as this could largely drive lifestyle changes. Smoking status and the amount of exercise are unknown. The conclusions that antipsychotics may be associated with higher rates of metabolic abnormalities is not supported by their study. In fact these very findings could be due to the disease states themselves and possibly independent of treatment. Though this is most likely not the case, their study is not designed nor is it powered to support the conclusions that all SGAs are created equal.

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Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

Discretionary Revisions (which the author can choose to ignore)

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**What next?:** Reject because too small an advance to publish

**Level of interest:** An article of limited interest

**Quality of written English:** Acceptable

**Statistical review:** No

**Declaration of competing interests:**

I declare that I have no competing interests.