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Risk for adverse health outcome in antipsychotic-naïve adolescents after 12 months of treatment with second-generation antipsychotics

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INTRODUCTION

- Psychiatric patients, especially psychotic patients, have an increased risk of weight gain and metabolic disturbances, especially after the first months of treatment with second-generation antipsychotics (SGA)[1].
- Paediatric patients are more vulnerable to metabolic dysregulation[2], with an increased risk for adverse health outcome[3].
- There are insufficient data on long-term risk for metabolic disturbances and adverse health outcome in this population group.

HYPOTHESES

- Young antipsychotic-naïve patients will have clinically significant weight gain after 12 months of treatment with SGAs
- The number of patients at risk for adverse health outcome[3] will increase significantly after 12 months of treatment with SGAs.
- These increases will be more pronounced in patients receiving olanzapine.

METHODS

Non-controlled longitudinal observational study

Subjects aged <18 years (any psychiatric diagnosis)

→ 12 months of uninterrupted treatment with the same SGA

- Naïve
- Quasi-naïve
- Risperidone
- Quetiapine
- Olanzapine

Assessment (baseline→ 6th, 12th month

- Anthropomethric changes (BMI z-score)
- Metabolic changes
  - TG
  - Glucose
  - SBP/DBP
  - LDL
  - HDL

Outcome measures

- Clinically significant weight gain ≥ 0.5 increase in BMI z-score (baseline → 6 → 12 months)

and

- Number of patients at risk for adverse health outcome

Criteria "at risk for adverse health outcome"

(1) BMI ≥ 85th percentile plus:

Hypertension (BP > 90th percentile)
Fasting cholesterol ≥ 200 mg/dL, or
LDL cholesterol > 130 mg/dL, or
HDL cholesterol < 40 mg/dL, or
Triglycerides ≥ 150 mg/dL, or
Hyperglycemia (fasting glucose ≥ 110 mg/dL)

or

(2) BMI ≥ 95th percentile[3]

Abbreviations: TG, triglycerides; BMI, body mass index; SBP/DBP, systolic and diastolic blood pressure; HDL, high-density lipoprotein; LDL, low-density lipoprotein.

RESULTS

Study sample

- 61 subjects, 14.1 ± 3.3 years of age (range 4-17 years), 79% males, 92% caucasian
- 55.7% with diagnosis of schizophrenia or other psychotic disorder
  - ➢ *% significantly higher in quetiapine group* (p<0.05)
- 54% naïve/46% quasi-naïve (mean previous cumulative dose, 17.16 ± 20.96 mg chlorpromazine equivalents)

Baseline

- BMI z-scores and metabolic measurements within normal limits; no significant differences between treatment groups
  - ➢ *Except DBP → significantly higher in the olanzapine group (p=0.05)*
- Six patients (10.2%) met criteria of being at risk for adverse health outcome
  - ➢ *No significant differences between treatment groups*

Changes baseline → 12th month

- BMI z-scores increased significantly in all SGA treatment groups *(p<0.001)*
  - ➢ *Mean increase z-score 0.95 ± 1.25SD*
  - ➢ *Increase significantly greater within the first six months in all SGA treatment groups: 0.96 ± 1.19SD (p<0.001)*
  - ➢ *The increase did not continue between the 6th and 12th month*
- A "clinically significant" weight gain (≥ 0.5 increase in BMI z-score) was observed in 57% of the total sample
  - ➢ *Increase significantly higher in the olanzapine group → 89% of patients (p<0.05)*
- No significant changes in metabolic measurements
  - ➢ *Except 'total cholesterol' → significant increase, mean 16.50 ±6.03 mg/dL in the quetiapine group (p<0.05)*
- The number of patients at risk for adverse health outcome increased significantly *(p<0.05), from 6 (10.2%) to 14 (23.3%) patients*
  - ➢ *No significant differences between treatment groups*

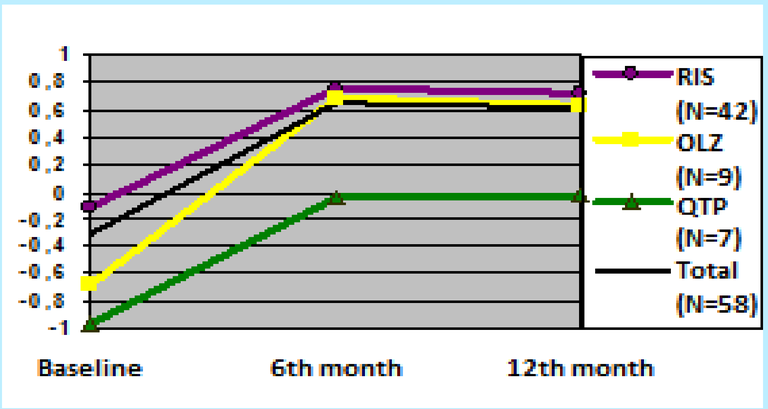

Fig. 1. BMI z-score increase/time within treatment groups

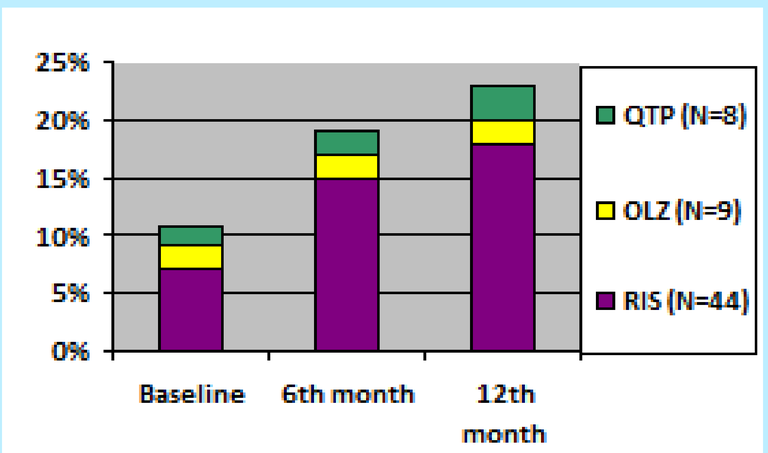

Fig. 2. Percentage of patients at risk for adverse health outcome (% refers to percentages within total sample)

Abbreviations: RIS, risperidone; OLZ, olanzapine; QTP, quetiapine.

DISCUSSION

Weight and metabolic profile should be monitored closely in children and adolescents treated with SGA, especially in the first six months, because of the long-term risk for adverse health outcome

References

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