

DIABETIC KETOACIDOSIS AND OLANZAPINE – CASE REPORT–

GARRIDO SUSANA, PEREIRA T, GIESTAS A, FERREIRA MA, CALDAS AR, TEIXEIRA S, SILV. AM,
FREITAS C, AMARAL C, VILAVERDE J, CARVALHO A, CARVALHO R, BORGES F
SERVIÇO DE ENDOCRINOLOGIA, HOSPITAL SANTO ANTÓNIO-CENTRO HOSPITALAR DO PORTO



INTRODUCTION Patients with psychotic or depressive disorders have an increased risk of developing metabolic syndrome, not only because of their unhealthy lifestyle (sedentary habits, inadequate diet and smoking) but also because of the negative impact of antipsychotic agents (specially clozapine and olanzapine) on several metabolic features. These include overweight/obesity, dyslipidemia, development of new-onset type 2 diabetes, worsening of pre-existing diabetes and diabetic ketoacidosis (DKA).

38-year-old ♂

- Active smoking(10 PY)
- Dyslipidemia
- Obesity (BMI 39 kg/m²)
- Inadequate diet
- Sedentary habits
- Family hx of type 2 diabetes
- Bipolar disorder
 - Diagnosis in 1995
 - Under lithium and quetiapine
 - Clinically stable

1 January/2013

**Exacerbation
Bipolar Disorder**



Olanzapine

2 Two weeks later:

Polydipsia, polyuria, weight loss, nausea,
vomiting



Hospital admission

Diabetic ketoacidosis

- Gasometry: pH 7.3, anion gap 21, ketonuria ++
- No other clinically evident precipitating event

- HbA1c 13.7%
- C-peptide 2,02 ng/mL
- Auto-antibodies (ICA, GAD) - not measured

3 Hospital discharge

- STOP olanzapine
- Introduction of metformin 2000mg/d and basal-bolus insulin regimen



Progressive reduction of
total daily dosage of insulin

Ten months later:

- STOP insulin therapy
- Metformin 1500mg and sitagliptin 50mg/d

DISCUSSION Approximately 35% of the cases of diabetes associated with antipsychotic agents present as DKA. The characteristics of the patient and his HbA1c suggests he had an undiagnosed type 2 diabetes, which manifested as a diabetic ketoacidosis. The temporal relationship between the introduction of olanzapine and the development of diabetic ketoacidosis and the possibility of an adequate glycemic control with oral antidiabetic drugs after discontinuation of antipsychotic agents suggest a direct metabolic effect. The mechanisms remain unclear, but histamine, muscarinic and serotonergic receptors seem to be implicated.

CONCLUSION This case report illustrates one serious complication of antipsychotic agents and stresses the importance of an evaluation of the metabolic risk and an individualized selection of the antipsychotic agent for these patients.