G68 Simultaneous Diabetic Ketoacidosis and Neuroleptic Malignant Syndrome in a Patient on Olanzapine

Erik D. Christensen, Office of the Greenville County Medical Examiner, 890 West Faris Road, Suite 110, Greenville, SC 29605*

After attending this presentation, attendees will understand how neuroleptic malignant syndrome and diabetic ketoacidosis are well-described phenomena in conjunction with the use of antipsychotic medications. They can independently cause sudden death and this case report documents their first simultaneous occurrence in a patient taking olanzapine.

This presentation will impact the forensic community and/or humanity by documenting and reporting the first simultaneous occurrence of DKA and NMS in the same patient taking olanzapine.

Learning Objectives: To present to the forensic and psychiatric communities the historical, clinical and laboratory findings in a patient who was diagnosed postmortem as having concomitant diabetic ketoacidosis (DKA) and neuroleptic malignant syndrome (NMS) as the cause of his sudden death.

Case Report: A 32-year-old black male taking olanzapine for a long history of psychiatric illness (variably diagnosed as schizophrenia and schizotypal personality disorder) was found unresponsive. On arrival at the hospital he was afebrile with symptoms and lab findings consistent with DKA. During his stay in the emergency room he developed a progressive decline in mental and clinical status and subsequently developed clinical and laboratory findings of NMS, which were diagnosed postmortem. His condition continued to deteriorate and he expired despite aggressive resuscitative measures approximately 6 hours after being found unresponsive. Body temperature at the time of death was 108 degrees Fahrenheit.

Methods: Medical records and autopsy protocol with laboratory studies were reviewed for this patient and are presented. The medical literature was searched using the keywords *olanzapine*, *diabetic ketoacidosis*, and *neuroleptic malignant syndrome* for citations relating to NMS and DKA in the setting of neuroleptic use and relevant citations are reviewed and discussed.

Results: Poor glycemic control is a well-described phenomenon in the setting of neuroleptic use and new-onset DKA has been reported in patients taking many different neuroleptics, including olanzapine. Neuroleptic malignant syndrome, which was reported with much greater frequency on older neuroleptics, has also been reported to occur with newer antipsychotic agents, including olanzapine. A single case of the simultaneous occurrence of NMS and DKA was previously reported in a hospitalized patient on Thorazine. This case report is the first reported case of the simultaneous occurrence of both conditions in a patient taking olanzapine.

Conclusions: While both NMS and DKA are well-known occurrences in patients on neuroleptics and equally well-known causes of death in forensic practice, their simultaneous occurrence has not been previously reported in the era of newer antipsychotics.

Diabetic Ketoacidosis, Neuroleptic Malignant Syndrome, Olanzapine

 ** Presenting Author*