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DYSTONIA AND ACUTE PSYCHOTIC EPISODE COMPLICATED BY NEUROLEPTIC MALIGNANT SYNDROME IN AN ADOLESCENT WITH CYP2D6 DEFICIENCY

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Introduction: CYP2D6 gene encodes an isozyme of the P450 cytochrome mono-oxygenase family, responsible for hepatic metabolism of the majority of neuroleptics. Phenotypes of CYP2D6 activity are ultrarapid, extensive, intermediate, and poor metabolizers. Prevalence of poor metabolizers is relatively high in European Caucasian population and ranges between 5-10%. The subjects with such phenotype are more likely to manifest adverse reactions and toxicity following administration of drugs in standard doses.
Objective: We describe a case report of a 16 year old male patient with dystonia and acute psychotic episode who developed neuroleptic malignant syndrome (NMS) associated with antipsychotic medication and a non-functional CYP2D6*4 allele.
Methods: The patient's clinical course is a case report.
Results: The patient developed NMS after treatment with standard doses of antipsychotics. Genotyping revealed that this patient was homozygous for non-functional CYP2D6*4 allele. Ziprasidone was used for a follow-up treatment after recovery from the NMS. Persistent neuropsychiatric impairment was noted after 9-months.
Conclusions: Initial symptoms developed by this patient may be explained by overuse OTC cough medication. This case suggest that as in adult population, non-functional CYP2D6 allele could be associated with NMS in pediatric population. This means that screening for CYP2D6*4 allele in pediatric patients with NMS and history of adverse drug reactions could be helpful in the treatment of residual state after NMS.

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