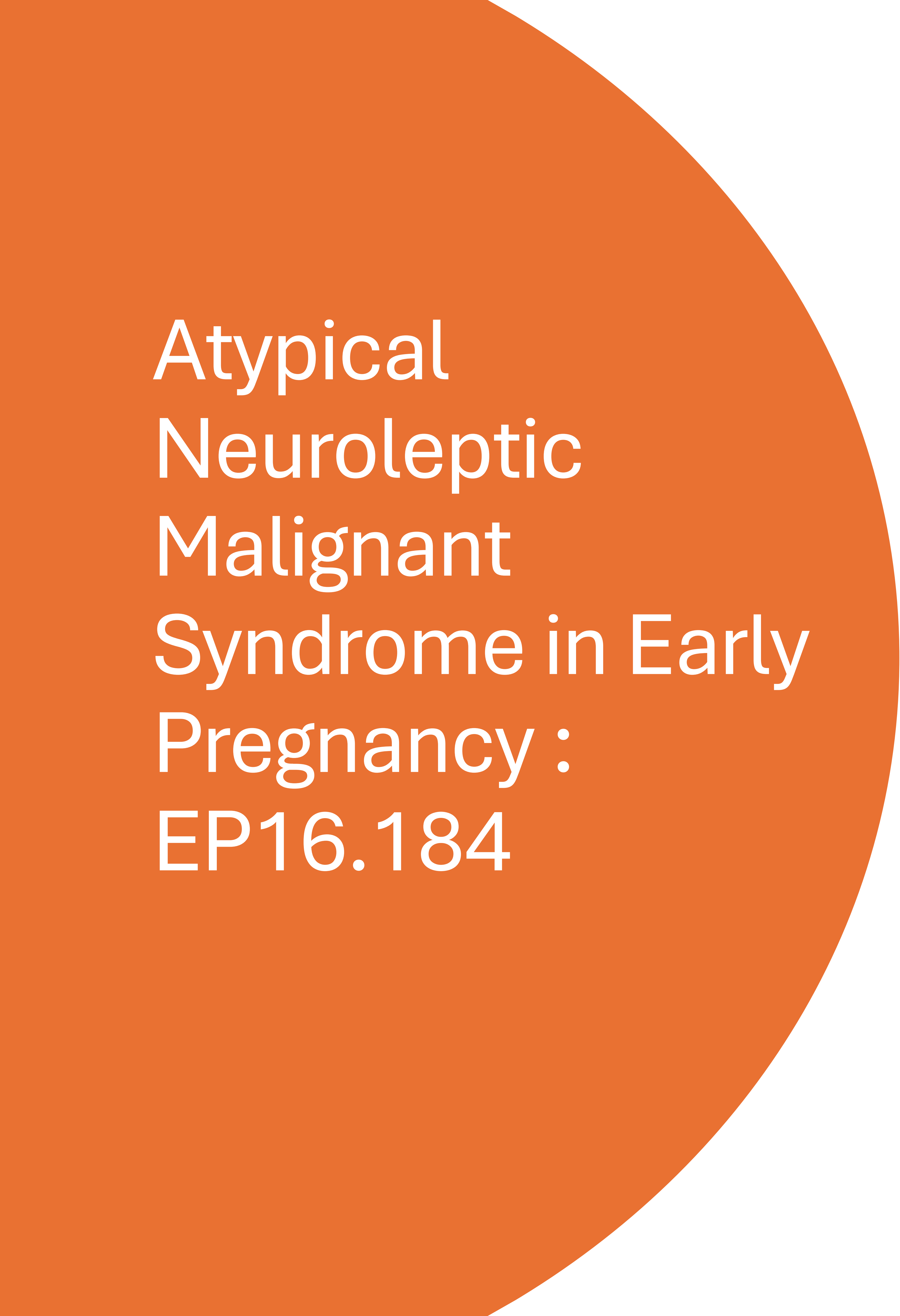




Atypical Neuroleptic Malignant Syndrome in Early Pregnancy : EP16.184

- **INTRODUCTION**
 - Neuroleptic malignant syndrome (NMS) although rare is a medical emergency. It is associated with the use of dopamine receptor antagonists particularly typical antipsychotics such as haloperidol (Stephen R Duma, 2019).Despite its rarity, due to its high risk of serious complications, it should always be considered in any patient with a history of mental health issues presenting with a fever, cognitive changes and muscle rigidity. Diagnosis in atypical presentations therefore poses a challenge as clinical features maybe incomplete.
 - **CASE REPORT**
 - A 19-year-old primigravida known to have an intellectual disability, severe behavioral issues and a history of chronic cannabis use, was referred from a psychiatric hospital at 6 weeks gestation to the early antenatal ward with muscle rigidity, tremors, odd gait, drooling, mild aphasia, generalized weakness and diaphoresis. One week prior to presentation, she was started on haloperidol 2.5mg daily, with the dose increased to 5mg on the day she presented. On initial assessment, she was found to be tachycardic (Pulse rate-134bpm), her blood pressure was elevated (144/96mmhg), as well as she had muscle rigidity and decreased power globally. Blood investigations revealed a leukocytosis (WBC-22x10⁹/L) and elevated creatinine kinase (CK-1832U/L). She was co-managed with the internal medicine team, with her main differential diagnosis being Neuroleptic malignant syndrome (NMS). Haloperidol was immediately stopped and she received supportive management with intravenous fluids (0.9%NS) and physiotherapy. Her symptoms quickly stabilized, and by the second day of her admission, her vitals had normalized, leukocytosis and creatinine kinase levels had both improved (WBC15.6x10⁶/L) and CK -581 U/L), so she was transferred back for further psychiatric care.
 - **DISCUSSION**
 - The incidence of NMS in patients taking neuroleptic medication varies between 0.01%-3.2% (Simon, Hashmi, & Callahan, 2023). Thankfully, this incidence is decreasing due to the increased use of atypical antipsychotics The main risk factor for NMS is an increase in the dose of antipsychotic medication, as was seen in our patient as she developed NMS within a couple of hours after her haloperidol dose was doubled.According to the DSM-5 criteria all 3 major criteria (dopamine antagonist exposure within 72 hours, hyperthermia and muscle rigidity) and 2 minor criteria (altered mental status, autonomic instability, elevated serum creatinine kinase, tremor, urinary incontinence, mutism, dysphagia, or high white blood cell count) are needed for the diagnosis of NMS (Regier, 2013). In some cases, hyperpyrexia may occur more than 24 hours after the onset of the initial symptoms and this may lead to difficulty in diagnosing NMS (Ramadhan Oruch, 2017), hence the need for a high index of suspicion in patients presenting with neuromuscular symptoms with a history of recent antipsychotic use. This was seen in our patient where she never developed a fever, but she had more than 5 other symptoms of NMS, therefore in conjunction with the internists, the diagnosis was made early and treatment instituted.As NMS is a medical emergency, admission to hospital in the acute setting as was done in this patient, is needed. The main facet of treatment is stopping the neuroleptic medication and supportive care including ensuring that the patient's volume status is maintained, and any underlying electrolyte abnormalities are corrected (Schönfeldt-Lecuona, 2020). In very few cases, drugs that increase the dopaminergic activity such as bromocriptine are needed. As was seen in this patient, supportive therapy was sufficient. Her vitals normalized within 24 hours and her creatine kinase and leucocytosis improved drastically within 48 hours. n some cases of NMS, even with the most aggressive treatment, the mortality of NMS is 5% at 30 days (Wijdicks EFM, 2024).
 - **CONCLUSION**
 - Neuroleptic Malignant Syndrome if not promptly recognized and treated can lead to significant morbidity and mortality. Therefore, a high index of suspicion is required, and it is imperative that the antipsychotic medication is stopped immediately to ensure the best patient outcome.
 - **REFERENCES**
 - Duma, S. R., & Fung, V. S. C. (2019). Drug-induced movement disorders. *Australian Prescriber*, 42(2). <https://doi.org/10.18773/austprescr.2019.014>
 - Leslie V. Simon; Muhammad F. Hashmi; Avery L. Callahan. (2023, April 24). *Neuroleptic Malignant Syndrome*. Stat Pearls.
 - Regier, D. A., Kuhl, E. A., & Kupfer, D. J. (2013). The DSM-5: Classification and criteria changes. *World Psychiatry*, 12(2). <https://doi.org/10.1002/wps.20050>
 - Ramadhan Oruch, Ian F. Pryme, Bernt A. Engelsen, & Anders Lund. (2017). Neuroleptic malignant syndrome: An easily overlooked neurologic emergency. *Neuropsychiatric Disease and Treatment*, 13(13), 161–175. <https://pmc.ncbi.nlm.nih.gov/articles/PMC5248946/>
 - Schönfeldt-Lecuona, C., Kuhlwilm, L., Cronemeyer, M., Neu, P., Connemann, B. J., Gahr, M., Sartorius, A., & Mühlbauer, V. (2020). Treatment of the Neuroleptic Malignant Syndrome in International Therapy Guidelines: A Comparative Analysis. In *Pharmacopsychiatry* (Vol. 53, Issue 2). <https://doi.org/10.1055/a-1046-1044>
 - Wijdicks EFM, R. A. (2024). Neuroleptic Malignant Syndrome. *New England Journal of Medicine*, 391(12), 1130–1138.
 -
- 