Hyperprolactinemia and Q-T Interval Prolongation in Serious Mental Illness (SMI)

Hyperprolactinemia[1,2]

Antipsychotics, especially haloperidol and risperidone, are associated with hyperprolactinemia. As a result, patients may experience decreased sexual and reproductive function in the short-term as well as weight gain and reduction in bone density long-term. Although some epidemiologic studies suggest hyperprolactinemia is a risk factor for breast and prostate cancer, there is currently inadequate evidence to conclude a significant causal association between the two.

Ideally, a baseline prolactin level should be obtained before starting psychiatric medications known to increase prolactin. Prolactin levels should be monitored in patients on long-term antipsychotic treatment, and early signs indicating development of hyperprolactinemia, such as weight gain and menstrual changes, should be assessed. Management of hyperprolactinemia includes reduction in the medication dose, discontinuation of the offending agent or switching to a prolactin-sparing agent such as aripiprazole. Treatment options should be tailored to the needs of the individual patient after careful consideration of the risks and benefits of treatment.[1, 2]

Q-T Interval Prolongation[1,3]

The Q-T interval represents electrical depolarization and repolarization of the ventricles, and the Q-Tc is this value corrected for the patient's heart rate. In clinical trials, a Q-Tc interval prolongation to greater than 500 milliseconds during therapy has been a threshold for concern. Clinically, a Q-Tc interval above 470 milliseconds in females and above 450 milliseconds in males is considered prolonged, and individual changes in Q-Tc intervals of 30 to 60 milliseconds from baseline should heighten suspicion of increased risk of arrhythmias.

Though data are limited, a prolonged Q-Tc interval appears to be more common with tricyclic antidepressants than selective-serotonin reuptake inhibitors. Antipsychotic medications have also been reported to be associated with Q-Tc interval prolongation, particularly with ziprasidone and thioridazine, and to a lesser extent with haloperidol quetiapine. When administering psychiatric medications, be cautious of the Q-Tc interval and obtain a baseline EKG prior to administering medications associated with prolonged Q-Tc interval.[1, 3]

This tool is provided as a resource and is not a substitute for the professional medical judgment of treating physicians or other health care practitioners. This guideline reflects the current state of knowledge at the time of development on effective and appropriate care. Proper use, adaptation, modifications or decisions to disregard in whole or in part are entirely the responsibility of the clinician who uses this guideline.

References

[1] Adapted from *A Summary for Monitoring Physical Health and Side-Effects of Psychiatric Medications in the Severely Mentally Ill Population (2014). The University of South Florida, Florida Medicaid Drug Therapy Management Program for Behavioral Health sponsored by the Florida Agency for Health Care Administration.*

[2] Ajmal, A., Joffe, H., & Nachtgall,L. B. (2014). Psychotropic-induced hyperprolactinemia: A clinical review. *Psychosomatics, 55(1),* 29-36.

[3] Nielsen, J., Graff, C., Kanters, J.K., Toft, E., Taylor, D., & Meyer, J.M. (2011). Assessing QT interval prolongation and its associated risks with antipsychotics. *CNS Drugs, 25(6),* 473-490.

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PRO_29952E Internal Approved 08242016