TITLE

Effects on prolongation of Bazett's corrected QT interval (QT_{Bc}) of seven second-generation antipsychotics in the treatment of schizophrenia: a systematic review and meta-analysis.

ABSTRACT

Background: The use of second-generation antipsychotics for the treatment of schizophrenia has surged worldwide, including Hong Kong. Amisulpride, aripiprazole, olanzapine, quetiapine, risperidone, sertindole and ziprasidone have now been commonly prescribed for treatment in schizophrenia. Their effects on QT interval prolongation differ but evidence remains sparse and mostly inconclusive.

Method: A systematic review and meta-analysis was conducted to identify randomized controlled trials according to *a priori* inclusion and exclusion criteria. The magnitude and risk on QT_{Bc} prolongation by these SGAs, in their oral formulations, for treatments in adult subjects with schizophrenia were compared and assessed.

Results: No meta-analytical evaluation could be performed for quetiapine due to the lack of QT_{Bc} data. Sertindole was the only SGA associated with a statistical significant worsening effect on mean QT_{Bc} (WMD = 18.6 [95% C.I. 10.26 to 26.94]). Other available data allowed assessment on risk for six SGAs only and demonstrated a statistically insignificant increased risk (pooled RR = 1.03 [95% C.I. 0.56 to 1.88]). Sub-group analyses failed to differentiate any statistical significant QT_{Bc} prolongation effects for these SGAs, neither on the magnitude over mean or mean change, nor the risk on QT_{Bc} prolongation.

Conclusion: The current findings were in line with conclusions of some reference guideline, reviews and clinical trial. Nevertheless, the largely statistically insignificant results for both magnitude and risk of SGAs on QT_{Bc} prolongation highlighted the problems on QT interval data reporting. This prompted the need for a more uniform approach to assess and report SGA's effect on QT interval so as to improve the statistical power of future meta-analyses before they could be incorporated into treatment guidelines for schizophrenia.