Reviewer's report

Title: Selective acquired long QT syndrome (saLQTS) upon risperidone treatment

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Reviewer: Pascale Guicheney

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The case report concerns a patient who has a selective QT prolongation to risperidone, but not to other known QT prolonging antipsychotic drugs such as aripiprazol, clothiapine, haloperidol and clozapine. This is interesting on a clinical point of view and other clinicians may have similar observations.

- Major Compulsory Revisions
  - No mutation was found in KCNH2, KCNQ1, KCNE1 and KCNE2 genes. The interest of the report is limited by the fact that no explanation was found. The authors suggest that this selective effect is not due to KCNH2 blockade and that it may be due to a mutation in another protein with which risperidone could interfere and thus induce QT prolongation. The patient has a basal QTc value slightly prolonged (460 ms). A screening of all LQT genes by the new next generation sequencing approach could lead to a target and in vitro pharmacological confirmation.
  - It should be stated whether the patient was treated by other drugs.

- Minor Essential Revisions
  Normal sequences of KCNE1 in the figure are of no interest and should be discarded. IC50 for KCNH2 inhibition of the 3 drugs should be given in the legend or text (cf figure D).