Chlorpromazine vs Reserpine for Schizophrenia

Selin Nur^{*,1} and Clive E. Adams²

¹Department of Computer Science, Hochschule Ulm—University of Applied Sciences, Ulm, Germany; ²Cochrane Schizophrenia Group, The University of Nottingham, Nottingham, UK

*To whom correspondence should be addressed; Department of Computer Science, Hochschule Ulm—University of Applied Sciences, Prittwitzstraße 10, 89075 Ulm, Germany; e-mail: nur-selin@web.de

Background

In the 1940s reserpine, refined from a plant extract that had been used for centuries, began to be used as a treatment for people with mental disorders, one of the first antipsychotic drugs. Its irreversible pharmacological potency and adverse effects meant that its role has been superseded by “newer” compounds. The effects of reserpine are of historical interest although there are reports of it still being used in highly specialist situations in psychiatry. Chlorpromazine is also an old drug but it is still used for treatment of people with schizophrenia.

Objectives

To review the effects of chlorpromazine vs reserpine for schizophrenia.

Search Methods

We searched the Cochrane Schizophrenia Group’s Trials Register (January 21, 2016) which is based on regular searches of CINAHL, BIOSIS, AMED, EMBASE, PubMed, MEDLINE, PsycINFO, and registries of clinical trials. There is no language, date, document type, or publication status limitations for inclusion of records in the register.

Selection Criteria

All randomized clinical trials focusing on chlorpromazine vs reserpine for schizophrenia.

Data Collection and Analysis

We extracted data independently. For binary outcomes, we calculated risk ratio (RR) and its 95% CI, on an intention-to-treat basis. For continuous data, we estimated

Fig. 1. Global state—not improved.

the mean difference (MD) between groups and its 95% CI. We employed a fixed-effect model for analyses. We assessed risk of bias for included studies and created “Summary of findings” tables using GRADE.

Main Results

The review currently includes 8 studies with an average 60 participants per study. All of these studies are now over 60 years old, conducted between 1955 and 1962. When chlorpromazine is compared with reserpine for people with schizophrenia improvement in global state was better at short term for those receiving chlorpromazine ($n = 730$, 5 randomized controlled trials (RCTs), RR 0.76, CI 0.62 to 0.92, “low quality”). Short term improvement in paranoid distortion was measured using the Multidimensional Scale for Rating Psychiatric Patients, data showed no clear difference between treatment groups ($n = 19$, 1 RCT, RR 1.33, CI 0.62 to 2.89, “very low quality”). There was no difference in functioning: occupational adjustment, medium term ($n = 40$, 1 RCT, RR 0.83, CI 0.47 to 1.47, “moderate quality”) and general behavior ($n = 98$, 1 RCT, RR 0.79, CI 0.41 to 1.53, moderate quality). For adverse events toxic reaction, there was, again, no obvious

difference between the 2 compounds ($n = 210$, 3 RCTs, RR 1.68, CI 0.43 to 6.54, moderate quality) and this also applied to leaving the study early ($n = 229$, 4 RCTs, RR 1.16, CI 0.94 to 1.42, moderate quality).

Authors’ Conclusions

Judged by standards of today, evidence is largely of limited quality. However, some studies of the 1950s are remarkable in their foresight and clarity.

Reserpine did have effect on “global state”—but chlorpromazine did seem to perform better (figure 1). Important issues regarding adverse effects were not really picked up by these trials. Chlorpromazine remains on the WHO list of essential drugs. Reserpine is now almost obsolete—and, again, this seems justified—although, reserpine has largely fallen into disuse probably as a result of evidence other than that reported in the pioneering trials used in this review. Full details are reported in the Cochrane Review.¹

Reference

1. Nur S, Adams CE. Chlorpromazine versus reserpine for schizophrenia [Review]. *Cochrane Database Syst Rev*. 2016.