Extract of *Ginkgo biloba* added to haloperidol was effective for positive symptoms in refractory schizophrenia


**QUESTION:** In patients with chronic, refractory schizophrenia, is extract of *Ginkgo biloba* (EGB) added to haloperidol more effective than placebo added to haloperidol?

**Design**
Randomised (unclear allocation concealment*), blinded (patients, healthcare providers, and outcome assessors)*, controlled trial with 12 weeks of follow up.

**Setting**
A psychiatric hospital in Beijing, China.

**Patients**
112 Han Chinese patients who were 18–60 years of age, had schizophrenia according to *DSM-III-R* criteria for ≥5 years, were resistant to treatment, and had a Clinical Global Impressions scale score of ≥4. Exclusion criteria were medical illness, alcohol or drug abuse, receipt of vitamin C or E within 1 week of the start of the study, pregnancy, breastfeeding, or depressive symptoms. 109 patients (mean age 44 y, 58% men) completed a 1 week placebo run in period, 105 (94%) completed the study; all patients were included in the analysis of clinical response.

**Intervention**
Patients were allocated to EGB, 360 mg/day, plus haloperidol, 0.25 mg/kg of body weight per day (n=56) or placebo plus haloperidol (n=53).

**Main outcome measures**
Change from baseline on the Brief Psychiatric Rating Scale (BPRS), the Scale for the Assessment of Negative Symptoms (SANS), and the Scale for the Assessment of Positive Symptoms (SAPS). Side effects were assessed using the Treatment Emergent Symptoms Scale (TESS). Clinical response was defined as a ≥30% decrease in the BPRS, SANS, or SAPS total scores.

**Main results**
Analysis was by intention to treat. At 12 weeks, EGB group patients had lower SAPS scores than placebo group patients. The groups did not differ for change in scores on the BPRS or the SANS. Repeated measures multivariate analysis of variance showed a drug effect (p=0.024) that remained when sex, age, and duration of illness were added to the analysis. Greater clinical response on the SAPS was seen in patients who received EGB than patients who received placebo (table). The groups did not differ for clinical response on the BPRS or the SANS. The groups did not differ for total scores on the TESS, and EGB group patients had greater decreases in behavioural toxicity and nerve system symptom subscores than placebo group patients.

**Conclusion**
In patients with chronic, refractory schizophrenia, extract of *Ginkgo biloba* added to haloperidol was more effective than placebo added to haloperidol in treating positive symptoms.

*See glossary.