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Poster presentation

Long term lithium therapy: a neuroprotective or neurotoxic factor? A systematic review of existing data

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Background

Lithium is an effective medication for the treatment of bipolar disorder, but it is unclear whether its long-term use may result in protective or in toxic consequences.

Materials and methods

The MEDLINE was searched with the combination of the word: 'Lithium' with key words that referred to every possible effect on the central nervous system. The papers were classified into those supporting a neuroprotective effect, those in favor of a neurotoxic effect and those neutral. The papers were classified in research in humans, animal and in vitro research, case reports, and review/opinion articles.

Results

The MEDLINE search returned 913 papers. This number concerns February 2005. The scanning of the abstracts selected 238 papers for further reviewing.

95 papers supported the neuroprotective effect (6 human research, 63 animal/in vitro, 0 case reports, 26 reviews/opinion articles).

135 papers supported the neurotoxic effect (18 human research, 21 animal/in vitro, 74 case reports, 22 reviews/opinion articles).

8 papers supported no hypothesis (5 human research, 2 animal/in vitro, 0 case reports, 1 reviews/opinion articles).

Discussion

Although more papers are in favor of the neurotoxic effect, the great difference in the type of papers that support either hypothesis, along with publication bias and methodological issues make conclusions difficult. It seems that there is a possibility of a toxic effect in real-life clinical practice even in well-followed patients.