Secretin is an ineffective treatment for pervasive developmental disabilities: a review of 15 double-blind randomized controlled trials

Sturmey P

CRD summary
This review evaluated the use of secretin in children with pervasive developmental disabilities (PDD). The author concluded that there is no robust evidence that secretin is an effective treatment for PDD. Given the limited number of generally small studies and the lack of consistently statistically significant results, the author’s conclusions about the lack of robust evidence appear supported.

Authors’ objectives
To evaluate the use of secretin in children with pervasive developmental disabilities (PDD).

Searching
PsycINFO and MEDLINE were searched; the search terms were reported. The reference lists of included studies were also checked.

Study selection
Study designs of evaluations included in the review
Double-blind, randomised controlled trials (RCTs) were eligible for inclusion. Single-blinded and unblinded studies were excluded.

Specific interventions included in the review
Studies of secretin compared with placebo were eligible for inclusion. The included studies used either porcine or human secretin, in a range of doses and regimens that were reported in the review. Where reported, the placebo was either synthetic secretin or saline.

Participants included in the review
Studies of children with PDD were eligible for inclusion. Studies of the use of secretin for children with gastrointestinal symptoms (GI) only were excluded. Where reported, the children in the included studies were aged from 3 to 14 years. The studies included children with and without GI symptoms.

Outcomes assessed in the review
There were no specific inclusion criteria relating to the outcomes. The primary outcome assessed was change in behaviour. The included studies assessed outcomes using a wide range of measures.

How were decisions on the relevance of primary studies made?
The author did not state how the papers were selected for the review, or how many reviewers performed the selection.

Assessment of study quality
The author did not state that they assessed validity.

Data extraction
The author did not state how the data were extracted for the review, or how many reviewers performed the data extraction.
Methods of synthesis

How were the studies combined?
The studies were combined in a narrative.

How were differences between studies investigated?
Differences between the studies were briefly discussed in the text, and the study details and results were tabulated in chronological order.

Results of the review

Fifteen double-blinded RCTs (n=601) were included in the review. Eight of the RCTs included in the review had a crossover design.

The author stated that most of the studies used a large number of statistical tests and did not correct for multiple tests. All 15 studies reported little or no evidence of an effect of secretin on the behaviour of children with PDD, regardless of the measure used. None of the studies concluded that secretin was an effective treatment for autism. Four studies analysed the results for children with and without GI symptoms, and found mixed results: one study reported a greater response to secretin in children with GI symptoms, one a lesser response, and two showed no difference between secretin and placebo.

Authors' conclusions

There is no robust evidence that secretin is an effective treatment for PDD.

CRD commentary

The review question was clear regarding the participants, intervention and study design. The search strategy was not completely described; it was unclear whether any language restrictions were applied during the search and the dates searched were not reported. No methodological details relating to the review process were provided, thus it was unclear whether steps were taken to avoid the introduction of error and bias. The review was restricted to double-blind RCTs, but study quality was not assessed further. The decision to combine the studies in a narrative was appropriate. The author did not discuss the limitations of the review, such as the inadequate sample sizes of the included studies. Given the limited number of generally small studies and the lack of consistently statistically significant results, the author's conclusions about the lack of robust evidence appear supported. However, the lack of reporting of the methods used to conduct the review and the absence of a validity assessment make it difficult to assess the strength of the evidence.

Implications of the review for practice and research

Practice: The author did not state any implications for practice.

Research: The author suggested that future research should investigate the possibility of a varying response to secretin in children with and without GI symptoms, and that researchers should report the definitions of GI symptoms and the reliability of the classification of participants.

Bibliographic details

Sturmey P. Secretin is an ineffective treatment for pervasive developmental disabilities; a review of 15 double-blind randomized controlled trials. Research in Developmental Disabilities 2005; 26(1): 87-97

PubMedID
15590241

DOI
Indexing Status
Subject indexing assigned by NLM

MeSH
Adolescent; Autistic Disorder /drug therapy; Child; Child Development Disorders, Pervasive /drug therapy; Child, Preschool; Double-Blind Method; Female; Humans; Language; Male; Randomized Controlled Trials as Topic; Secretin /therapeutic use; Social Behavior; Treatment Outcome

AccessionNumber
12005009179

Date bibliographic record published
30/09/2005

Date abstract record published
30/09/2005

Record Status
This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.