

Living FRIendly Summaries of the Body of Evidence using Epistemonikos (FRISBEE)

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Is there benefit adding antivirals to corticosteroids for Bell's palsy in adults?

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Abstract

Bell's palsy is the first cause of unilateral facial palsy. The likely etiologic mechanism is facial nerve inflammation secondary to viral reactivation, most probably due to herpes simplex and Varicella Zoster. Corticosteroids are considered the mainstay of treatment, but it is not clear whether adding antivirals would further increase the benefit. Searching in Epistemonikos database, which is maintained by screening 30 databases, we identified 10 systematic reviews including 16 pertinent randomized controlled trials overall. We combined the evidence and generated a summary of findings following the GRADE approach. We concluded that adding antivirals to the treatment with corticosteroids probably reduces the risk of incomplete recovery in patients with Bell's palsy.

Problem

Bell's palsy constitutes the main cause of unilateral facial paralysis. Although most patients recover spontaneously, it leads to important limitations in some individuals. Herpes family reactivation by either herpes simplex or varicella zoster is accepted as the main etiology. It produces an inflammatory process that derives in edema of the perineural layer, myelin degeneration and inflammatory cells infiltration. It is not clear if adding antivirals, such as acyclovir and valacyclovir, to the standard treatment with corticosteroids would offer additional benefit.

Methods

We used Epistemonikos database, which is maintained by screening more than 30 databases, to identify systematic reviews and their included primary studies. With this information we generated a structured summary using a pre-established format, which includes key messages, a summary of the body of evidence (presented as an evidence matrix in Epistemonikos), meta-analysis of the total of studies, a summary of findings table following the GRADE approach and a table of other considerations for decision-making.

Key messages

- Adding antivirals to the treatment with corticosteroids probably reduces the risk of incomplete recovery in patients with Bell's palsy

About the body of evidence for this question

| | |
|---|---|
| <p>What is the evidence. See evidence matrix in Epistemonikos later</p> | <p>We found 10 systematic reviews [1],[2],[3],[4],[5],[6],[7],[8],[9],[10] that consider 19 pertinent studies overall [11],[12],[13],[14],[15],[16],[17],[18],[19],[20],[21],[22],[23],[24],[25],[26],[27],[28],[29], including 16 randomized controlled trials [11],[12],[13],[14],[15],[16],[17],[18],[19],[20],[21],[22],[23],[24],[26],[28]. This table and the summary in general are based on the latter.</p> |
| <p>What types of patients were included</p> | <p>All studies included adults with Bell's Palsy diagnosed at different stages. Some studies did include patients based on severity according to House-Brackmann score.</p> |
| <p>What types of interventions were included</p> | <p>Seven studies included antiviral treatment using acyclovir [11],[12],[17],[18],[22],[24],[28], six valacyclovir[13],[14],[15],[16],[23],[26] and two famcyclovir [19],[21]. In five of the included studies antiviral treatment was added to prednisone [12],[15],[19],[23],[24], in nine to prednisolone [11],[14],[16],[17],[18],[21],[22],[26],[28], and in one to deflazacort [13]. All studies compared against corticosteroids monotherapy in the same dose than comparison group.</p> |
| <p>What types of outcomes were measured</p> | <p>Main outcome: Long term complete recovery of facial mobility Other outcomes: reduction of recovery time in patients with severe palsy, short term complete mobility recovery, synkinesis, autonomic dysfunction and antiviral adverse effects</p> |

Summary of findings

The information on the effects of adding antivirals to steroidal treatment for Bell's palsy is based on 15 randomized studies including 2592 patients [11],[12],[13],[14],[15],[16],[17],[18],[19],[20],[21],[22],[23],[24],[25],[26],[27],[28]. All studies reported the outcome incomplete recovery.

- Adding antivirals to the treatment with corticosteroids probably reduces the risk of incomplete recovery in patients with Bell's palsy. The certainty of the evidence is moderate.

| Adding antivirals to corticosteroids for Bell's palsy | | | | |
|--|---|-----------------|--------------------------|-----------------------------------|
| Patients | Bell's palsy | | | |
| Intervention | Antivirals plus corticosteroids | | | |
| Comparison | Corticosteroids plus placebo | | | |
| Outcomes | Absolute effect* | | Relative effect (95% CI) | Certainty of the evidence (GRADE) |
| | WITHOUT antivirals | WITH antivirals | | |
| | Difference: patients per 1000 | | | |
| Incomplete recovery | 224 per 1000 | 155 per 1000 | RR 0.69 (0.52 a 0.9) | ⊕⊕⊕○ ¹ Moderate |
| | Difference: 69 patients less per 1000 (Margin of error: 22 to 108 less) | | | |
| RR: Risk ratio. Margin of error = 95% confidence interval (CI). GRADE: evidence grades of the GRADE Working Group (see later in this article). * The risk WITH antivirals is based on the risk in the control group of the trials. The risk WITH antivirals (and its margin of error) is calculated from relative effect (and its margin of error). 1 We downgraded the certainty of the evidence in one level because of inconsistency (I ² =48%). | | | | |

About the certainty of the evidence (GRADE)*

⊕⊕⊕⊕

High: This research provides a very good indication of the likely effect. The likelihood that the effect will be substantially different† is low.

⊕⊕⊕○

Moderate: This research provides a good indication of the likely effect. The likelihood that the effect will be substantially different† is moderate

⊕⊕○○

Low: This research provides some indication of the likely effect. However, the likelihood that it will be substantially different† is high.

⊕○○○

Very low: This research does not provide a reliable indication of the likely effect. The likelihood that the effect will be substantially different† is very high.

*This concept is also called 'quality of the evidence' or 'confidence in effect estimates'.

† Substantially different = a large enough difference that it might affect a decision.

Other considerations for decision-making

To whom this evidence does and does not apply

- This evidence applies to adult patients diagnosed with peripheral facial palsy, regardless of severity, without need of microbiological confirmation of viral reactivation, which is similar to daily practice where diagnose is solely based on clinical findings.
 - All studies started treatment before the fourth day of symptoms, so it is unclear if we can apply these results to patients with a longer symptomatic period. If combined treatment is still used, less favorable results should be expected
-

About the outcomes included in this summary

- The summarised outcome (complete facial mobility recovery) is the only outcome considered to be critical for decision making in clinical practice, based on the opinion of the authors of this summary. It is also the main outcome according to all of the systematic reviews identified. Antivirals adverse effects are not presented in the summary of findings table because of the vast evidence confirming their safety in other conditions.
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Balance between benefits and risks, and certainty of the evidence

- Combined treatment presents a substantial benefit with minimal adverse effects, with moderate certainty of the evidence. The balance between benefits and risk is favourable.
-

Resource considerations

- Adding antivirals is a low cost measure, so the cost/benefit is probably favourable. Even more if we take into account the impact that short and long term complications derived from Bell's palsy produce on affected patients.
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Differences between this summary and other sources

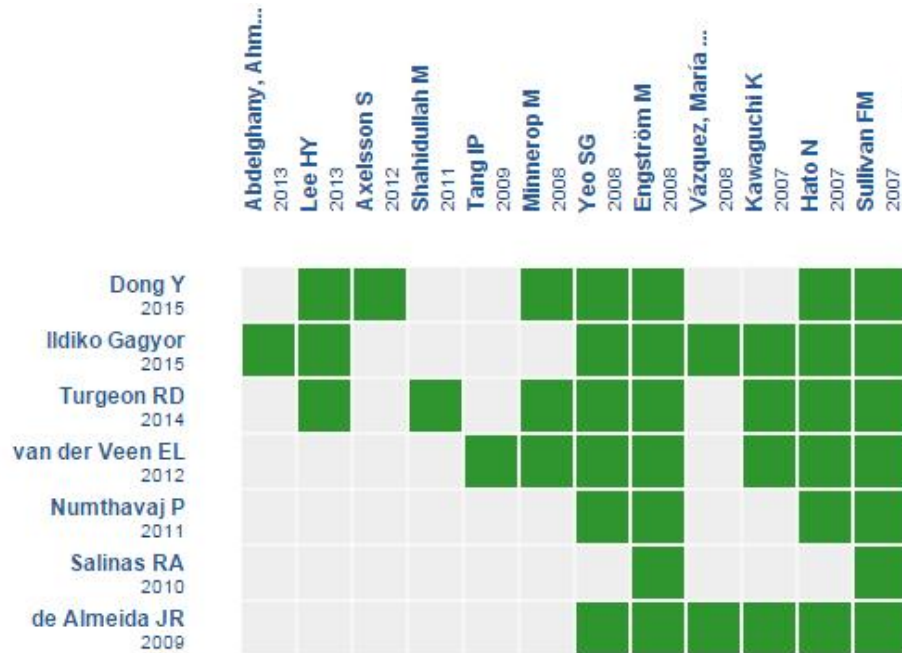
- The conclusions of this summary agree with the results of the higher quality systematic reviews [\[4\]](#), [\[5\]](#) even though they put less emphasis on the benefits of combined therapy. Probably this difference can be explained by some studies that were not identified, or were not available when these were published.
 - The conclusions of this summary partially agree with the main guidelines which make a weak recommendation for its use [\[30\]](#), [\[31\]](#). It is important to consider these guidelines are based on a small proportion of the evidence identified in this summary, mainly because it was not available at the time of their publication.
-

Could this evidence change in the future?

- The probability of future evidence modifying these conclusions is low because of the certainty of existing evidence.
-

How we conducted this summary

Using automated and collaborative means, we compiled all the relevant evidence for the question of interest and we present it as a matrix of evidence.



Starting from any systematic review, Epistemonikos builds a matrix based on existing connections in the database.
 The author of the matrix can select relevant information for a specific health question (typically in PICO format) in order to display the information set for the question.
 The rows represent systematic reviews that share at least one primary study, and columns display the studies.
 The boxes in green correspond to studies included in the respective reviews.

Follow the link to access the **interactive version**: [Antiviral agents added to corticosteroids versus corticosteroids alone for Bell's palsy in adults](#)

Notes

The upper portion of the matrix of evidence will display a warning of "new evidence" if new systematic reviews are published after the publication of this summary. Even though the project considers the periodical update of these summaries, users are invited to comment in *Medwave* or to contact the authors through email if they find new evidence and the summary should be updated earlier. After creating an account in Epistemonikos, users will be able to save the matrixes and to receive automated notifications any time new evidence potentially relevant for the question appears.

The details about the methods used to produce these summaries are described here <http://dx.doi.org/10.5867/medwave.2014.06.5997>.

Epistemonikos foundation is a non-for-profit organization aiming to bring information closer to health decision-makers with technology. Its main development is Epistemonikos database (www.epistemonikos.org).

These summaries follow a rigorous process of internal peer review.

Conflicts of interest

The authors do not have relevant interests to declare.

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