

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

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Are biologics useful for nail psoriasis?

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Abstract

Apart from involving skin, psoriasis can compromise the nails and adjacent structures. Even though there are multiple therapeutic alternatives, there is great interest in biological therapy, but no consensus on its role exists. Searching in Epistemonikos database, which is maintained by screening 30 databases, we identified two systematic reviews including three randomized trials. We combined the evidence using meta-analysis and generated a summary of findings table following the GRADE approach. We concluded it is not clear whether biological therapy is superior to placebo in the treatment of nail psoriasis because the certainty of the evidence is very low.

Problem

Psoriasis is a common disease that can affect skin, joints and nails. Nail involvement may be up to 50 % of patients and it is considered more difficult to treat. It corresponds to an autoimmune disorder mediated by T cells that interact with keratinocytes and other cells of the skin.

The treatment of psoriasis with biologic agents is routinely used in patients with moderate to severe psoriasis or refractory psoriatic arthritis. Good results in these situations have raised interest in evaluating them in the treatment of nail psoriasis

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

- It is not clear whether biological therapy has a role in the treatment of nail psoriasis because the certainty of the evidence is very low

About the body of evidence for this question

<p>What is the evidence. See evidence matrix in Epistemonikos later</p>	<p>We found two systematic reviews [1],[2] that include five primary studies reported in 10 references [3],[4],[5],[6],[7],[8],[9],[10],[11],[12], of which three (eight references [3],[4],[5],[6],[7],[8],[9],[10]) correspond to randomized controlled trials. This table and the overall summary are based on the latter.</p>
<p>What types of patients were included</p>	<p>All studies included adult patients, over 18 years old, of both sexes, with nail psoriasis and no other nail disease. Two studies included patients with moderate to severe psoriasis with at least 6 months from diagnosis and Psoriasis Area and Severity Index (PASI) > 12 [5],[6]. One study included patients with active psoriatic arthritis [4]. Studies of patients with pustular psoriasis of the nails, acropustulosis keratotica and acrodermatitis continua of Hallopeau were excluded.</p>
<p>What types of interventions were included</p>	<p>One study evaluated subcutaneous golimumab 50 or 100 mg at weeks 0, 4, 8, 12, 16 and 20 [4]; patients that at week 16 had less than 10% improvement had an escalation of therapy (placebo to golimumab 50 mg or golimumab 50 mg to 100 mg). It was compared with placebo at week 24 and then a crossing over was done to complete 24 more weeks. One study used subcutaneous ustekinumab 45 mg or 90 mg at weeks 0 and 4 and then every 12 weeks until week 52 [5]. Patients with improvement <50% in PASI at 28 weeks discontinued the intervention. This was compared to placebo at weeks 0 and 4, and then a crossover to ustekinumab 45 or 90 mg at week 12 was performed, administering treatment at week 16, 28, 40 and 52. One study used intravenous infliximab 5mg/kg at week 0, 2 and 6 and every 8 weeks up to week 46 [6]: This was compared against placebo until week 24 and then crossing over to infliximab 5 mg/kg on week 24, 26 and 30 and then every 8 weeks to complete.</p>
<p>What types of outcomes were measured</p>	<p>Nail psoriasis was measured in all studies with Nail Psoriasis Severity Index (NAPSI) in the most affected nail. Overall improvement in nail psoriasis by clinical assessment and the degree of improvement according to patient's opinion were also assessed. Other outcomes were: adverse effects, quality of life and improvement on nail features (pain, thickness, hyperkeratosis, number of affected nails and growth).</p>

Summary of findings

The information on the effects of biological therapy for nail psoriasis is based on three randomized trials involving 694 patients. All studies reported the severity of nail psoriasis and adverse effects.

Biological therapy for nail psoriasis			
Patients		Nail psoriasis	
Intervention		Biological therapy (infliximab, golimumab, ustekinumab)	
Comparison		Placebo	
Outcomes	Impact		Certainty of the evidence (GRADE)
NAPSI *	All three studies reported favorable variations of NAPSI score, but not in sufficient detail to estimate the magnitude of benefit	----	⊕○○○ [†] Very low
Adverse effects**	Ustekinumab: nasopharyngitis, increased blood triglycerides, creatine phosphokinase, seasonal allergies and infections, up to 97.4% of treated patients. Golimumab: mainly upper respiratory tract infections, up to 65% of patients. Infliximab: infections, headache, fatigue and elevated liver enzymes was observed up to 82% of cases.		⊕⊕⊕⊕ High
<p>GRADE: grade levels of evidence of the GRADE Working Group (see later in this article). * We were unable to perform combination and meta-analysis of data since only two studies reported the percentage change in the score, without data on the initial value of NAPSI score at short, medium or long term was reported.</p> <p>**It was not specified how many patients that presented adverse effects had exclusively nail psoriasis.</p> <p>[†] The certainty of the evidence was downgraded for inconsistency, risk of bias and imprecision.</p>			

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

- The evidence presented in this summary is generally applicable to all adult patients with nail psoriasis.
 - Does not apply to patients with other nail diseases or with pustular psoriasis of the nails, acropustulosis keratotica or acrodermatitis continua of Hallopeau.
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About the outcomes included in this summary

- Nail Psoriasis Severity Index (NAPSI) measured in the most affected nail was the outcome selected because it was the only outcome measured in all three studies to determine the severity of nail psoriasis, and corresponds to a critical outcome for decision making.
-

Balance between benefits and risks, and certainty of the evidence

- In general, the certainty of the available evidence is very low so it is not possible to make an adequate risk/benefit balance.
 - Adverse effects are more common in biological therapies compared to placebo, although these are not serious.
-

What would patients and their doctors think about this intervention

- Due to the existence of other effective therapeutic measures in this condition it is likely that most patients would not be inclined to use an intervention of high cost and adverse effects associated with an uncertain benefit.
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Resource considerations

- There were no costs reported in the studies included in our summary, but these are generally high cost drugs. The uncertainty regarding the possible benefits makes impossible to estimate the cost/benefit relation.
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Differences between this summary and other sources

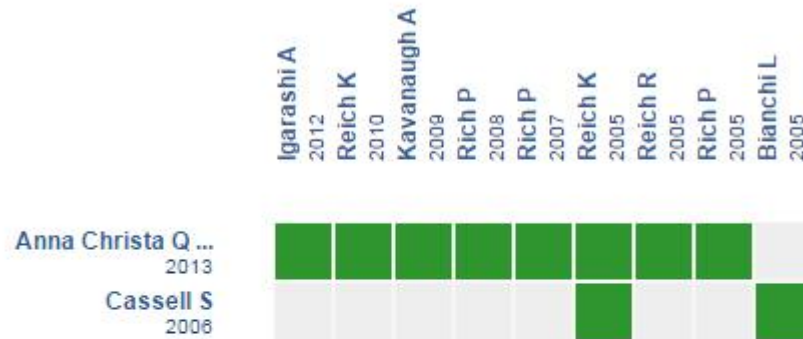
- The findings of our summary are consistent with those of the systematic reviews identified.
 - The conclusions of this summary are in partial agreement with the British Association of Dermatologists' guideline for biologic interventions for psoriasis[13], which refers infliximab as an intervention for nail psoriasis. However, the criteria for the use of this type of treatment does not include nail psoriasis and would be indicated for patients with severe disease (PASI score ≥ 10 or DLQI > 10) plus one of the following characteristics: phototherapy or systemic therapy are contraindicated, not tolerated, or disease is refractory to such treatments. It would also be indicated for patients with joint involvement that have been refractory or have contraindications to standard systemic therapy.
-

Could this evidence change in the future?

- The probability that the main findings of this summary change with future evidence are very high due to the very low certainty of the evidence so far.
 - Unfortunately we did not identify ongoing studies evaluating this intervention against placebo, but new studies focusing on the comparison of one biologic to another.
-

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**: [Biologic therapy for nail psoriasis](#)

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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