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Topic: Autoimmune disorders

A systematic review of case series and clinical trials investigating systemic oral or injectable therapies for the treatment of vitiligo

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Introduction

The purpose of this study is to investigate the effectiveness and safety of oral and injectable systemic treatments, such as methotrexate, azathioprine, cyclosporine, tofacitinib, baricitinib, corticosteroids, statins, zinc, apremilast, etc., for treating vitiligo lesions.

Materials and Methods

Databases including PubMed, Scopus, and Web of Science were meticulously searched for studies spanning from 2010 to August 2025, focusing on systemic oral and injectable therapies for vitiligo, using comprehensive keywords and search syntaxes tailored to each database. Key data extracted included study design, treatment efficacy, patient outcomes, patient satisfaction, and safety profiles.

Results

In a total of 42 included studies, oral mini-pulse corticosteroid therapy (OMP) was the subject of six studies (14.2%). Minocycline was the focus of five studies (11.9%), while methotrexate, apremilast, and tofacitinib each were examined in four studies (9.5%). Antioxidants and Afamelanotide were the subjects of three studies each (7.1%). Cyclosporine, simvastatin, oral zinc, oral corticosteroids (excluding OMP) and injections, and baricitinib were each explored in two studies (4.8%). Azathioprine, mycophenolate mofetil, and Alefacept were the subjects of one study each (2.4%).

Conclusions

Systemic treatments for vitiligo have been successful in controlling lesions without notable side effects. OMP, Methotrexate, Azathioprine, Cyclosporine, Mycophenolate mofetil, Simvastatin, Apremilast, Minocycline, Afamelanotide, Tofacitinib, Baricitinib, Antioxidants, and oral/injectable corticosteroids are effective treatment methods. However, oral zinc and alefacept did not show effectiveness.

