

Mycophenolate Mofetil for Interstitial Lung Disease in Scleroderma

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Requestors Southern Health Therapeutics Committee

Clinical advisor The author would like to thank Associate Professor Geoff Littlejohn for providing expert advice on the topic overall, and specific clinical information required for question development and establishment of search criteria.

Abstract

Background The purpose of this review is to provide the Southern Health Therapeutics Committee with information regarding the effectiveness and safety of mycophenolate mofetil in patients with scleroderma and interstitial lung disease.

Clinical Question In patients with scleroderma and interstitial lung disease is treatment with mycophenolate mofetil more effective and safer than treatment with cyclophosphamide?

Methods We searched The Cochrane Library, including The Cochrane Database of Systematic Reviews, DARE, CENTRAL, HTA and NHS EED in October 2007. We also searched the Medline and EMBASE databases and major clinical trial registration sites.

We included all trials published in English.

Studies were selected by one reviewer in consultation with colleagues, using inclusion and exclusion criteria established a priori.

Results Our search identified 95 potentially relevant titles. Of these, four studies were identified which included scleroderma patients with interstitial lung disease (ILD) being treated with mycophenolate mofetil (MMF), however no study suitably assessed treatment with MMF as compared to cyclophosphamide in the patient group of interest.

The studies included one cohort study and three case series.

The cohort study consisted of patients who had scleroderma along with a range of organ involvement however data from patients with scleroderma and lung involvement was not presented separately.

Case series studies cannot be used to comment on comparative efficacy and safety of treatment.

The authors of the studies identified reported that MMF is well tolerated in scleroderma patients.

No ongoing randomised controlled trials were identified in a search of clinical trials registers.

Conclusions No appropriate comparative studies were identified which examined treatment of patients with scleroderma and ILD by MMF as compared to cyclophosphamide. A prospective, randomised trial comparing MMF and cyclophosphamide is needed to fully assess the relative effectiveness and safety of MMF for scleroderma and ILD.

Background

The purpose of this review is to provide the Southern Health Therapeutics Committee with information regarding the effectiveness and safety of mycophenolate mofetil in patients with scleroderma and interstitial lung disease.

Clinical Question

In patients with scleroderma and interstitial lung disease is treatment with mycophenolate mofetil more effective and safer than treatment with cyclophosphamide?

Methods

Study Selection Criteria

Patient	Inclusion: Patients with interstitial lung disease AND scleroderma Exclusion: Patients with scleroderma alone and patients with interstitial lung disease alone
Intervention	Inclusion: Mycophenolate Mofetil Exclusion: -
Comparison	Inclusion: Cyclophosphamide Exclusion: -
Outcomes	Any
Study Type	Comparative studies
Publication Date	1990 to present
Language	English

Search Strategy

Evidence Source	Date of Search or Issue searched
All EBM (Ovid) <ul style="list-style-type: none">including The Cochrane Database of Systematic Reviews, DARE, CENTRAL and ACP Journal Club	26 th October 2007
The Cochrane Library (HTA and NHS EED)	26 th October 2007
Medline (Ovid)	26 th October 2007
EMBASE	26 th October 2007
WHO International Clinical Trials Registry (http://www.who.int/ictrp/en/) Including: <ul style="list-style-type: none">Clinical Trials.govThe Australian Clinical Trials RegistryThe Chinese Clinical Trial RegisterClinical Trials Registry – IndiaISRCTN – International Standard Randomised Controlled Trial Number Register	26 th Oct 2007
CenterWatch Clinical Trial Listing Service (http://www.centerwatch.com/)	26 th Oct 2007
International Federation of Pharmaceutical Manufacturers and Associations (IFPMA) Clinical Trials Portal (http://clinicaltrials-dev.ifpma.org/)	26 th Oct 2007

Search Terms in Medline*

Patient	1. (exp Lung Diseases, Interstitial/ or (interstitial\$ and lung\$)) AND (exp Scleroderma. Limited/ or exp Scleroderma, Systemic/ or exp Scleroderma, Diffuse/ or exp Scleroderma, Localized/ or exp Sclerosis or scleroderma.mp. or sclerosis.mp.)
Intervention	2. exp Mycophenolic Acid/ or mycophenol\$.mp. or MMF.mp. or CellCept.mp
Comparison	-
Outcomes	-
Search strategy	#1 AND #2

*Syntax adapted as appropriate for other databases

Data Collection & Analysis

Search results were examined by one reviewer in consultation with colleagues using study selection criteria established a priori.

Results

Our search of the medical databases identified 95 potentially relevant titles. Of these, four studies were identified which included scleroderma patients with interstitial lung disease (ILD) being treated with mycophenolate mofetil (MMF), however no study suitably assessed treatment with MMF as compared to cyclophosphamide in the patient group of interest.

As no appropriate comparative studies were found critical appraisal was not undertaken.

One cohort study was identified which compared scleroderma patients treated with MMF to scleroderma patients treated with any other immunosuppressive drug. Whilst a large proportion of these patients had scleroderma with lung involvement (>50% in both MMF and control groups) data was not presented for patients according to organ involvement thus it is not possible to comment on the effect in patients with scleroderma and ILD.¹

Three case series were reported, however two of these included mixed populations of patients and it is not possible to separate the results of the population of interest. One reported patients with ILD caused by a variety of different connective tissue diseases, including scleroderma.² One reported on scleroderma patients with a range of comorbidities including ILD.³ The third case series reported only patients who had both scleroderma and ILD⁴ however, case series studies cannot be used to comment on comparative effectiveness or safety.

All identified studies were small and though authors reported that MMF treatment was well tolerated most concluded that the results indicated that larger, prospective studies were required.

Our search of clinical trials registers did not identify any ongoing randomised controlled trials comparing MMF treatment to cyclophosphamide treatment for scleroderma with ILD.

Conclusions

No appropriate comparative studies were identified which examined treatment of patients with scleroderma and ILD by MMF as compared to cyclophosphamide. No ongoing randomised controlled trials were identified. A prospective, randomised trial comparing MMF and cyclophosphamide is needed to fully assess the relative effectiveness and safety of MMF for scleroderma and ILD.

References

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