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[Intervention Review]

Adjunctive steroid therapy for managing pulmonary tuberculosis

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ABSTRACT

Background

Tuberculosis causes approximately 8.6 million disease episodes and 1.3 million deaths worldwide per year. Although curable with standardized treatment, outcomes for some forms of tuberculosis are improved with adjunctive corticosteroid therapy. Whether corticosteroid therapy would be beneficial in treating people with pulmonary tuberculosis is unclear.

Objectives

To evaluate whether adjunctive corticosteroid therapy reduces mortality, accelerates clinical recovery or accelerates microbiological recovery in people with pulmonary tuberculosis.

Search methods

We identified studies indexed from 1966 up to May 2014 by searching: Cochrane Infectious Diseases Group's trials register, Cochrane Central Register of Controlled Trials, MEDLINE, EMBASE and LILACS using comparative search terms. We handsearched reference lists of all identified studies and previous reviews and contacted relevant researchers, organizations and companies to identify grey literature.

Selection criteria

Randomized controlled trials and quasi-randomized control trials of recognized antimicrobial combination regimens and corticosteroid therapy of any dose or duration compared with either no corticosteroid therapy or placebo in people with pulmonary tuberculosis were included.

Data collection and analysis

At least two investigators independently assessed trial quality and collected data using pre-specified data extraction forms. Findings were reported as narrative or within tables. If appropriate, Mantel-Haenszel meta-analyses models were used to calculate risk ratios.

Main results

We identified 18 trials, including 3816 participants, that met inclusion criteria. When compared to taking placebo or no steroid, corticosteroid use was not shown to to reduce all-cause mortality, or result in higher sputum conversion at 2 months or at 6 months (mortality: RR 0.77, 95%CI 0.51 to 1.15, 3815 participants, 18 studies, *low quality evidence*; sputum conversion at 2 months RR 1.03, 95%CI 0.97 to 1.09, 2750 participants, 12 studies; at 6 months; RR1.01, 95%CI 1.01, 95%CI 0.98 to 1.04, 2150 participants, 9 studies, both *low quality evidence*). However, corticosteroid use was found to increase weight gain (data not pooled, eight trials, 1203 participants, *low quality evidence*), decrease length of hospital stay (data not pooled, three trials, participants 379, very low quality of evidence) and increase clinical improvement within one month (RR 1.16, 95% CI 1.09 to 1.24; five trials, 497 participants, *low quality evidence*).

Authors' conclusions

It is unlikely that adjunctive corticosteroid treatment provides major benefits for people with pulmonary tuberculosis. Short term clinical benefits found did not appear to be maintained in the long term. However, evidence available to date is of low quality. In order to evaluate whether adjunctive corticosteroids reduce mortality, or accelerate clinical or microbiological recovery in people with pulmonary tuberculosis further large randomized control trials sufficiently powered to detect changes in such outcomes are needed.

8 May 2019

No update planned

Research area no longer active

Steroids are not used to treat this condition. Please see the authors' conclusions section of the review.

PLAIN LANGUAGE SUMMARY

Adjunctive steroid therapy for managing pulmonary tuberculosis

Pulmonary tuberculosis is a common infectious disease. Although curable with standard anti-pulmonary tuberculosis drugs, it has been reported that an individuals recovery could be improved by adding corticosteroids to their treatment. Current clinical guidelines advise the use of corticosteroids for treatment of other types of tuberculosis; tuberculosis meningitis and tuberculosis pericarditis. Whether corticosteroids would be beneficial in the treatment of pulmonary tuberculosis remains unclear. After reviewing the evidence available to date we found that there was not enough high quality data to support or reject corticosteroid use alongside anti-pulmonary tuberculosis drugs.