Authors' objectives
The authors' stated objectives were to assess the management of oral candidiasis in patients with human immunodeficiency virus or acquired immune deficiency syndrome (HIV/AIDS), and to evaluate management guidelines.

Searching
MEDLINE and Index Medicus were searched from 1990 to August 2001; the search terms were reported. The reference lists of retrieved papers were checked and any journal appearing in the reference list was added to a list of journals to be handsearched. Non-English language studies were excluded.

Study selection
Study designs of evaluations included in the review
Inclusion criteria relating to the study design were not stated. The paper contained conflicting statements about the inclusion or exclusion of case studies.

Specific interventions included in the review
Studies that compared at least two topical or systemic interventions used to treat oral candidiasis were eligible for inclusion. The interventions in the included studies were itraconazole, fluconazole, clotrimazole, nystatin, ketoconazole, amphotericin B and voriconazole. Some studies compared different active treatments.

Participants included in the review
Studies involving only people with HIV/ AIDS were eligible for inclusion. In most of the included studies the patients had either oral candidiasis or symptoms that suggested oral candidiasis.

Outcomes assessed in the review
Inclusion criteria were not stated for the outcomes. The outcomes reported in the review included response and effect of antifungals, which were expressed using measures of clinical cure, colonisation, relapse, signs and symptoms. The review also addressed drug resistance and interactions.

How were decisions on the relevance of primary studies made?
The authors did not state how the papers were selected for the review, or how many reviewers performed the selection.

Assessment of study quality
The papers were graded into three levels of evidence depending on how they dealt with patient selection, confounding and measurement. Level A papers met all of the following criteria: randomised or quasi-randomised; clearly defined research aims; inclusion criteria stated; drop-out rates reported; control group; the number of participants in each group reported; objective outcome measures; and length of follow-up period stated. Level B papers met some of these criteria and level C papers met none of them. The authors did not state how the papers were assessed for validity, or how many reviewers performed the validity assessment.

Data extraction
The authors did not state how the data were extracted for the review, or how many reviewers performed the data extraction.

Methods of synthesis
How were the studies combined?
The studies were combined in a narrative, grouped by one of three objectives: to assess the effect of antifungal medications on oral candidiasis; to assess the efficacy of different interventions on the treatment of oral candidiasis in HIV-positive patients; to assess the guidelines for the management of oral candidiasis in primary health care settings.

How were differences between studies investigated?
Differences between the studies were not investigated.

Results of the review
Details of 22 studies (n=1,980) were tabulated, of which 11 (n=1,609) were randomised controlled trials (RCTs). An unknown number of other studies was also included.

Effect of antifungal medications on oral candidiasis (6 studies).
The authors stated that the quality of the included studies was mainly high (A), but none of the 6 studies included in this section received a quality rating of A. Two trials of itraconazole reported clinical response rates of 55% and 65%. One study reported that the continuous use of fluconazole was significantly associated with fluconazole failure when compared with no use. One study reported no statistically significant difference in recurrence rate before and after initiation of therapy with fluconazole. One case report showed fluconazole to be successful, while another study seemed to show that fluconazole increased resistance.

Efficacy of different interventions for the treatment of oral candidiasis in HIV-positive patients (9 studies).
All 9 studies were graded level A in terms of quality. Fluconazole was more effective than clotrimazole (1 study), ketoconazole (1 study) and nystatin (2 studies). Clotrimazole (1 study) and itraconazole (3 studies) were as effective as fluconazole. Ketoconazole was as effective as itraconazole (1 study).

Guidelines for the management of oral candidiasis in primary health care settings (number of studies unclear).
One study was level A in terms of quality. The authors did not attempt to pool the results of these guidelines and urged caution when interpreting their results (no further details were given).

Drug resistance and interactions (7 studies: one level A, three level B and three level C).
One study (12 patients) found that voriconazole for 7 days was effective in 83% of patients resistant to fluconazole. One study (2 patients) found that amphoteracin B was effective in two patients with azole-resistant thrush. Other studies used fluconazole, but it was not stated what drugs the patients were resistant to.

Authors' conclusions
Milder episodes of oral candidiasis responded to topical therapy with nystatin, clotrimazole troches, or oral ketoconazole. A dose of 50 mg fluconazole daily has been shown to achieve a cure rate of 82%, and is the treatment of choice for relapsing oropharyngeal candidiasis. Intravenous amphoteracin B was effective in azole-refractory candidiasis and was well tolerated. Topical therapies were effective for uncomplicated oropharyngeal candidiasis, but patients relapsed more quickly than those treated systemically.

CRD commentary
This systematic review did not have a very clear objective or inclusion criteria. For example, the authors stated that case reports were excluded, but two case reports were actually included. Since details of the review process were limited, it was not possible to assess whether bias might have occurred at this stage. The literature search was limited to MEDLINE and to English language literature, thus relevant studies might have been missed. A validity assessment was carried out so the reliability of the results of the included studies could be assessed. The criteria used to define response in individual studies were not reported, which hinders comparisons of results among studies.
The studies were inadequately synthesised. The results of individual studies and levels of statistical significance were not reported consistently, and references to studies providing supporting evidence were not given. Only selected studies were discussed in the paper, but the results were not discussed with respect to validity. The authors did not justify their decision not to combine the studies in a meta-analysis. The ‘Results’ section referred to studies that did not seem to have been included in the review, therefore the authors’ conclusions, which appear partially based upon this additional information, should not be relied upon.

Implications of the review for practice and research
Practice: The authors stated that topical treatment of initial or recurrent oropharyngeal candidiasis is appropriate, providing the clinical symptoms are not severe and there is no risk of oesophageal involvement. Oral azoles could be used for more serious cases. Alterations to policies for the rational use of antifungal agents and appropriate surveillance may be needed, owing to the changing spectrum of candidiasis.

Research: The authors did not state any implications for further research.

Bibliographic details

PubMedID
12674866

Indexing Status
Subject indexing assigned by NLM

MeSH
AIDS-Related Opportunistic Infections /epidemiology; Acquired Immunodeficiency Syndrome /epidemiology; Antifungal Agents /therapeutic use; Candidiasis, Oral /classification /diagnosis /drug therapy /epidemiology; Comorbidity; HIV Infections /epidemiology; Humans; Practice Guidelines as Topic; Treatment Outcome; Triazoles /therapeutic use

AccessionNumber
12003003830

Date bibliographic record published
31/08/2005

Date abstract record published
31/08/2005

Record Status
This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.