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ORIGINAL ARTICLE

Comparison of the recovery rate of otomycosis using betadine and clotrimazole topical treatment[☆]Q2 Mohammad Reza Mofatteh^a, Zahra Naseripour Yazdi^b, Masoud Yousefi^c,
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KEYWORDS

Otomycosis;
Topical betadine;
Topical clotrimazole;
Recovery rate

Abstract

Introduction: Otomycosis is one of the common diseases that associated with many complications including involvement of the inner ear and mortality in rare cases. Management of otomycosis can be really challenging, and requires a close follow-up. Treatment options for otomycosis can include local debridement, local and systemic antifungal agents and utilization of topical antiseptics. The topical medications recommended for the treatment of otomycosis.

Objective: This study was designed to compare the recovery rate of otomycosis using two therapeutic methods of topical betadine (Povidone-iodine) and clotrimazole.

Methods: In this single-blind clinical trial, 204 patients with otomycosis were selected using a non-probability convenient sampling method and were randomly assigned to two treatment groups of topical betadine and clotrimazole (102 patients in each group). Response to treatment was assessed at 4, 10 and 20 days after treatment. Data were analyzed using the independent *t*-test, Chi-Square and Fisher exact test in SPSS v.18 software, at a significance level of $p < 0.05$.

Results: The results showed that out of 204 patients with otomycosis, fungi type isolated included *Aspergillus* in 151 cases (74%), and *Candida albicans* in 53 patients (26%). On the fourth day after treatment, 13 patients (13.1%) in the group treated with betadine and 10 patients (9.8%) in the group treated with clotrimazole had a good response to treatment ($p = 0.75$). While, a good response to treatment was reported for 44 (43.1%) and 47 patients (46.1%) on the tenth day after the treatment ($p = 0.85$); and 70 (68.6%) and 68 patients (67.6%) on the

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twentieth day after treatment ($p=0.46$) in the group treated with betadine and clotrimazole, respectively. So, the response to treatment was not significantly different in the two groups.

Conclusion: In the present study the efficacy of betadine and clotrimazole were the same in the treatment of otomycosis. The result of this study supports the use of betadine as an effective antifungal in the otomycosis treatment that can help to avoid the emergence of resistant organisms.

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PALAVRAS CHAVE

Otomíose;
Betadina tópica;
Clotrimazol tópico;
Taxa de recuperação

Comparação entre taxa de recuperação de otomíose usando tratamento tópico com betadina e clotrimazol

Resumo

Introdução: A otomíose é uma das doenças comuns associadas a muitas complicações, como envolvimento da orelha interna e mortalidade em casos raros. O tratamento da otomíose pode ser realmente desafiador e requer um acompanhamento rigoroso. As opções de tratamento para otomíose podem incluir desbridamento local, agentes antifúngicos locais e sistêmicos e utilização de antissépticos tópicos, os medicamentos tópicos recomendados para o tratamento da otomíose.

Objetivo: O objetivo deste estudo foi comparar a taxa de recuperação de otomíose utilizando dois métodos terapêuticos de betadina tópica (Povidona-iodo) e clotrimazol.

Método: Neste ensaio clínico simples cego, 204 pacientes com otomíose foram selecionados utilizando-se um método de amostragem de não probabilidade conveniente e randomizados para dois grupos de tratamento, com betadina tópica e com clotrimazol (102 pacientes em cada grupo). A resposta ao tratamento foi avaliada aos 4, 10 e 20 dias após o tratamento. Os dados foram analisados utilizando o teste t independente, qui-quadrado e teste exato de Fisher no software SPSS v.18, com nível de significância de $p < 0,05$.

Resultados: Os resultados mostraram que dos 204 pacientes com otomíose, os tipos de fungos isolados incluíram *Aspergillus* em 151 casos (74%) e *Candida albicans* em 53 pacientes (26%). No quarto dia após o tratamento, 13 pacientes (13,1%) no grupo tratado com betadina e 10 pacientes (9,8%) no grupo tratado com clotrimazol apresentaram boa resposta ao tratamento ($p=0,75$). Uma boa resposta ao tratamento foi relatada para 44 (43,1%) e 47 pacientes (46,1%) no décimo dia após o tratamento ($p=0,85$); e 70 (68,6%) e 68 pacientes (67,6%) no vigésimo dia após o tratamento ($p=0,46$) no grupo tratado com betadina e clotrimazol, respectivamente. Assim, a resposta ao tratamento não foi significativamente diferente nos dois grupos.

Conclusão: No presente estudo, a eficácia da betadina e do clotrimazol foi a mesma no tratamento da otomíose. O resultado deste estudo apoia o uso de betadina como um antifúngico eficaz no tratamento da otomíose que pode ajudar a evitar o surgimento de organismos resistentes.

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Introduction

External ear infection is a common inflammation of the external ear canal and auricle that occurs due to various factors or as a manifestation of a systemic disease. About 10% of people suffer from infection of the external ear canal in their lives, 90% of which is unilateral.^{1,2} The fungal infection of external ear canal (Otomycosis) is a common disease that referrals to the Ear, Nose and Throat (ENT) centers includes 9%^{3,4} to 27.2%⁵ of patients presenting with signs and symptoms of external otitis media. The infection is also the cause of more than 30% of patients with ear discharge and

is the common cause of resistance to treatment in external otitis.⁶ Otomycosis is usually caused by risk factors, such as entry of foreign bodies into the ear canal, traumatic insemination of wood particles, plant materials and dirt into the ear canal, scratching and manipulation of the ear canal with non-sterile equipment, living in dusty areas or wet atmosphere, humidity of the ear canal after swimming and bathing, fungal nail infection and dermatophytic lesions around the ear.^{7,8}

Otomycosis is associated with many complications including involvement of the inner ear and mortality in rare cases. Formation of fungus ball or fungal mass of mycelia,

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