



COMPARISON OF RESPONSE TO TREATMENT OF OTOMYCOSIS USING TOPICAL BETADINE AND CLOTRIMAZOLE DROPS

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ABSTRACT

INTRODUCTION: Otomycosis is the fungal infection of EAC (External Auditory Canal) that is very commonly seen in Ear, Nose and Throat clinics. Local debridement and antifungals, topical or systemic is the treatment of choice but recurrences are very common and resistant to treatment.

METHODS: Total 220 patients, divided into two groups each 110 in 'A' and 'B' were subjected to betadine (povidone - iodine) 10% solution and Clotrimazole (1%) drops treatment and response of treatment assessed on 5th, 10th and 20th day and analyzed.

RESULTS: Out of 110 patients in each group on 5th day 21.8% patients in group 'A', and 23.6% in group 'B' showed no response. 70.9% in group 'A' and 72.7% in group 'B' were showed good response at evaluation of 20th day of treatment.

CONCLUSION: In our study, betadine (10% solution) and Clotrimazole (1%) drops were equally effective in treatment of otomycosis. Betadine (10% solution) is low cost, non-ototoxic, nonresistant and equally effective in bacterial and fungal infection. That's why this study support betadine 10% solution as treatment of choice for otomycosis specially in developing countries.

KEYWORDS : Otomycosis, Betadine, Clotrimazole

INTRODUCTION:

Otomycosis is the fungal infection of EAC (external ear canal) that is very commonly seen in ENT (Ear, nose and throat) clinics. It is very commonly prevalent in hot, humid climate. Now a days prevalence of otomycosis is increasing because of excessive use of antibiotics drops. Frequent swimming, immunocompromised patients, open mastoidectomy, tympanic membrane perforation, hearing aid usage and self-cleaning with cotton swabs are other predisposing factors (1,2).

Otomycosis frequently causes ear discharge with pain, heaviness and blocked sensation in ear with itching. Mortality is very rare. Diagnosis of otomycosis is made by clinical features and Otosopic findings. Aspergillus and Candida species are very common (4,5). Treatment options for otomycosis are local debridement along with antifungal, topical or systematically specially clotrimazole (1%) cream/drops (6). This regimen is not always completely cure otomycosis and recurrences are very common and even sometime resistant to treatment. Antibiotics frequent usage also increased its secondary overgrowth and prevalence (1, 7). These are the reasons to cure otomycosis is very difficult by ENT specialists. This study aimed to compare the response to treatment of otomycosis using topical betadine (10%) solution and clotrimazole (1%) drops as a topical method.

MATERIAL AND METHOD:

This study was done from September 2007 to March 2008 in ENT department of JAH Group of Hospitals in 220 patients. After recording demographic characteristics such as name, age, sex and address, informed consent was taken and enrolled in the study.

INCLUSION CRITERIA:

Patients who had fungal Otitis Externa confirmed on otoscopy with pain, ear discharge, itching and blocked sensation.

EXCLUSION CRITERIA:

All patients who had no fungal growth on Otoscopy, history of ear surgery, history of treatments with anti-fungal, use of corticosteroids and external ear anomaly.

All 220 patients divided randomly in two groups 'A' and 'B' both with group 'A' patients were treated with betadine (povidone-iodine 10%) 10ml solution ear wash using syringes on each visit.

Group B patients received four drops of clotrimazole (1%) drops, 4 times a day daily. All groups of patients examined on 5th, 10th and 20th day and categorized into 3 groups based on clinical response: Good response (dry ear and tympanic membrane with no pain). Partial response (no pain but slight discharge) and no response (excessive discharge with or without pain). Treatment was continuing till all patients had good response.

Only patients who come for follow up to 20 days included in this study.

RESULTS:

In this study total 220 patients analyzed and divided in two groups 'A' and 'B' 110 patients each. Group 'A' was treated with betadine 10% solution with 10ml syringe while group 'B' were treated with clotrimazole (1%) topically 4 drops four time a day and all patients analyzed for treatment respond on 5th, 10th and 20th day as shown in table 1

Table 1: comparison of response of treatment in all groups

Course of treatment	groups	Responses to treatment		
		No Response (%)	Partial Response (%)	Good Response (%)
Day of Evaluation of patients				
5th Day	A	30(27.3)	56(50.9)	24(21.8)
	B	28(25.5)	56(50.9)	26(23.6)
10th day	A	10(9.0)	50(45.5)	50(45.5)
	B	8(7.3)	48(43.6)	54(49.1)
20th day	A	8(7.3)	24(21.8)	78(70.9)
	B	6(5.5)	24(21.8)	80(72.7)

As shown in table 1, on 5th day 24 patients (21.8%) in group 'A' and 26 patients (23.6%) in group 'B' showed good responses on 5th day while on 10th day this percentage is increased to 45.5% for group 'A' and 49.1% for group 'B'. On 20th day good responses increased up to 70.9% in group 'A' and 72.7% in

group 'B'. At the end of 20th day 7.3% in group 'A' and 5.5 % in group 'B' remained no responder while 21.8 % in each group was partial responder.

DISCUSSIONS:

In our study after treatment course on 5th day 21.8% patients showed good response and 50.9% patients showed partial response with 27.3 % showed no response. When treated With betadine (povidone-iodine 10%) 10ml solution syringing. On other hand, in group 'B' which were treated with 1% clotrimazole topical drops showed 23.6% good responses, 50.9% partial responses and 25.5% showed no responses .On the 10th day only 9% showed no responses and 45.5% as partial responses in group 'A' while 7.3% and 43.6% in group 'B' showed no responses and partial responses respectively. On the 20th day 70.9% in group 'A' and 72.7% in group 'B' showed good response for treatment. Over all in our study no significant difference seen in treatment in both group on 5th, 10th and 20th day after treatment with betadine (povidone-iodine 10%) solution and clotrimazole (1%) topical drops. Their responses are comparable with study done by Phillip 'A' et al(8). In another study done by Alnawaiseh et al compared miconazole cream with clotrimazole drops into otomycosis. They did not found any significant difference in this study (9). Stern et al found clotrimazole most effective against otomycosis and Tolnaftate had no impact(10). In another study done by Bassiouny et al showed clotrimazole and econazole equally effective(11).

In our study we used betadine (povidone - iodine 10%) solution and clotrimazole (1%) topical drops for treatment of otomycosis and found equally effective. Povidone- iodine (10%) solution is stable, low cost, effective and non-ototoxic substance and equally effective in chronic suppurative otitis media(12,13). It can be used for otomycosis especially in developing countries. Bacterial and Fungal resistance also not reported for betadine (povidone-iodine 10%) solution.

CONCLUSION:

In our study, according to results betadine (povidone-iodine) 10% solution and clotrimazole (1%) drops were equally effective in treatment of otomycosis. Due to low cost, easy availability nonresistant to bacteria and fungi and non-ototoxic nature we recommend betadine solution(10%) for otomycosis treatment.

CONFLICTS OF INTEREST:

There are no interests of conflicts

FINANCIAL SPONSORSHIP:

Nil

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