

RESPONSE PATTERN OF ACUTE OTITIS EXTERNA TO A TRIPLE REGIMEN OF STEROID, ANTIBACTERIAL AND ANTIFUNGAL AGENTS

Ibiam Fa¹, Obasikene G², Ezeanolue Bc³, Okoroafor Ij³, Esezobor Ee²

¹ Ear, Nose and Throat department, Federal Medical Center Owerri South East Nigeria. PMB 1010, Owerri Imo State Nigeria.

² Department of Surgery, Irrua Specialist Teaching Hospital, Edo State Nigeria.

³ Ear, Nose, and Throat department, University of Nigeria Teaching Hospital, Enugu, Enugu State Nigeria.

ABSTRACT

Background

Several agents involving mono or multitherapy have been used over the years in the treatment of acute otitis externa with varying results. In this study we have considered the response pattern of acute otitis externa to a tripple regimen of steroid, anti-bacterial and an anti-fungal medication in our center.

Objective

To determine the clinical response pattern of acute otitis externa to a tripple regimen of steroid, anti-bacterial and anti-fungal medications.

Methodology

A hospital based prospective clinical and laboratory study on patients treated with ototopical medication containing anti-bacterial, anti-fungal and steroid for three weeks was undertaken.

Results

A total of 155 ears from 127 patients were treated. with a topical ear preparation known as locorten-vioform[®] (manufactured by Amdipham plc Basildon, Essex).

At the end of 3 weeks of treatment (i.e. manual aural dry mopping of the ear and ototopical locorten vioform[®] medication) 80.6% (125 ears) had no residual symptoms while 16.1% (25. ears) still had few residual symptoms and 3.2% (5 ears) had no change in symptoms.

None of the patient's symptom got worse during the treatment.

Conclusion

A triple regimen of antibiotic, antifungal and steroid agent with ear dry mopping is effective in the treatment of acute otitis externa.

Keywords: titis externa, Ototopical ear drop, Culture.

Introduction

Acute otitis externa is defined as redness or swelling of the external auditory canal or debris in the canal accompanied by pain, itching, otorrhea, hearing loss or a stuffy feeling for less than three wWeeks¹

It can also be defined as inflammation of the external ear canal, which also involves the pinna or tympanic membrane². The

incidence of acute otitis externa is higher in humid tropical areas than in temperature climates³. In South Eastern Nigeria, studies by Okafor show that the incidence of otitis externa was quite high, with about 117 new cases per year and ranking second to chronic suppurative otitis media as the commonest otologic disease⁴

Predisposing factors to developing otitis externa include: excessive wetness of ear canal as in swimmers, being in warm and humid places, harsh cleaning of the ear canal skin, foreign body in the ear canal, lack of cerumen (ear wax), eczema and other forms of dermatitis⁵

The most common cause of otitis externa is bacterial infection though fungal over growth is a principal cause in 10% of cases⁵. Although otitis externa is rarely life threatening, fungal otitis externa presents a challenging and frustrating entity for both patients and otologists, for it frequently requires long term treatment and follow up, yet the recurrent rate remains high⁶

Emgard *et al* in Sweden in 2005 observed that a 0.05% solution of betametasone dipropionate (BD) was more effective in the treatment of external otitis than ear drops containing antibiotics or antifungal, whether the ear was infected or not⁷.

They also recorded no serious adverse effects and stated that lower cost favoured a steroid solution without any antibiotic component. Their conclusion was that a steroid solution should be the preferred remedy for external otitis, whether infected or not⁷.

In yet another study by Emgard *et al* in 2005 on external otitis caused by infection with *Pseudomonas aeruginosa* or *Candida albicans* cured by use of a topical group III steroid,

without any antibiotics, it was found that irrespective of the microbial agent, a group III steroid solution cured external otitis efficiently in a rat model⁸.

The conclusion was that the addition of antibiotic components to steroid solution for the treatment of external otitis was of questionable validity⁸

The effectiveness of use of topical steroid was also evaluated by Jacobson *et al* in 1991 in Sweden by studying the clinical efficacy of budesonide in the treatment of eczematous external otitis⁹. They found out that budesonide treatment was associated with a reduction in the severity of all symptoms recorded and a marked improvement in erythema, swelling and discharge⁹. They concluded that mechanical cleaning of the ear canal and placebo was not sufficient treatment for the group of patient used⁹.

The external auditory canal can also be cleaned by rinsing with sterile water or using a suction device¹⁰. There also appears to be much greater scope for the use of astringents and effective prevention measures in addition to aural toileting¹¹.

Topical antifungal agents used in the treatment of otomycosis include clotrimazole, mycosatin, locorten-vioform[®], and gentian violet¹². Oto topical broad spectrum antibiotics are effective agents against bacterial otitis externa, though an increase in the incidence of fungal infections of the ear was associated with the wide spread use of ofloxacin¹³.

Patients and methods

The patients were drawn from those presenting for treatment at the otolaryngology clinics of the University of Nigeria Teaching

Hospital Ituku-Ozalla Enugu state, Nigeria . It was a year hospital based study. Clinical diagnosis of otitis externa were made based on presence of one or more of three major symptoms of otalgia, itching and fullness in the ear canal and one or more of minor complaints of tinnitus, hearing impairment, fullness or ear discharge. Ooscopic findings such tenderness on tragal palpation, accumulation of debris in the external auditory meatus, edema, narrowing and redness of external ear canal, presence of mycelial growth, hyphae or spores in the external auditory canal were also used to make a diagnosis of otitis externa. Patient EAM were manually cleaned under vision and they were thought on how to apply locorten-viofom[®] solution thus: shake the solution first, then turn your head such that the affected ear was uppermost and put two to

three drops of the locoerten-vioform[®] solution into the ear canal. Apply gentle pressure on the tragus and rock gently for the solution to adequately enter the ear canal and stay in that position for 2-3 minutes. Repeat same procedure for the other ear if disease is bilateral. This was done 4 times/day for 3 consecutive weeks.

PATIENT FOLLOW UP AND TREATMENT END POINT

Patients were reviewed every one Week and the presence, absence or severity of symptoms such as otalgia, itching, fullness in the ear, discharge and hearing impairment was determined weekly. Signs of external auditory canal redness, swelling, accumulation of debris, narrowing and tragal tenderness were also elicited and recorded.

RESULTS

Table I: Patients outcome after three weeks of treatment by manual

aural dry mopping and ototopical Locorten-Vioform[®] medication.

n = 155

Outcome	Week 1	Week 2	Week 3
	Frequency (% age)	Frequency (%)	Frequency (% age)
Cured	70 (45.16%)	110 (70.97%)	125 (80.6%)
Responding but with residual symptoms	60 (38.71%)	36 (23.23%)	25 (16.1%)
No change	25 (16.13%)	9 (5.81%)	5 (3.2%)
Worsened	0	0	0
Total	155.0 (100)	155.0 (100)	155.0(100)

Discussion.

By the end of first week of the treatment with Locorten-vioform[®] ear drops and manual aural dry mopping, 45.16% of patients had respond to drug treatment and 38.71% were responding to treatment with residual symptoms and 16.13% had not responded at all. However by the end of three weeks of treatment of the ear ; 80.6% of patients had no residual symptoms nor signs, and 16.10% still had residual symptoms and signs while 3.2% of patients only, had no change in their clinical response. These results bring to light the need for adequate length of time for the treatment of otitis externa and the place of combined agents in the management of otitis externa.

CONCLUSION

1 Triple regimen of antibiotic, antifungal and a -steroid agent with ear dry mopping is effective in the treatment of otitis externa.

2. A minimum of three weeks of treatment and follow up is necessary to achieve satisfactory results in the treatment of otitis externa.

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