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گۆڤاری زانکۆی سلێمانی , ٢٠١٠, بەرگ١٣(١) بەشی A

The Role of Various out Patients Aural Toileting Procedures in the Treatment of Otomycosis

***Yousif Ebrahim Chalabi , **Sarwat Tawfeq San-Ahmed**

*Sulaimani Medical College,** Sulaimani teaching hospital-Kurdistan Region - Iraq

Abstract

BACKGROUND: Otomycosis is not uncommon clinical problem requiring a long term treatment and has a recurrence tendency. Meticulous cleansing especially of anterior metal recess is the treatment mainstay.

OBJECTIVES; to determine the clinical presentation and predisposing factors, compare the efficacy of aural toileting procedures and to assess the syringing role as a safe effective procedure for deep meatal recess debris removal.

METHOD: A randomized prospective comparative study conducted on 91 patients (99 ears) in ENT consultation clinic- Sulaimani Teaching Hospital from April 2007 – November 2008. Patients were divided into two groups :group A underwent ear syringing and group B underwent dry suction cleansing. Data entry and analysis by software version 15 (2008) carried out (STATGRAPHICS)

RESULTS: presenting symptoms were otalgia (94.5%), ear fullness (74.72%), itching (58.24%), hearing impairment (40.65%), otorrhea (20.87%) and headache (14.82%). Predisposing factors were ear moisture (94.5%), self cleansing habit (62.63%), ototopical agent overuse (36.26%) and dermatophytosis (19.78%). Dry cleaning showed complete debris removal in 31(63.26%) ears and incomplete removal in 18 (36.73%) ears while syringing showed complete removal in 38 (76%) ears and incomplete removal in 12 (24%) ears. Dry cleaning adverse effect was 37.37% compared to 12.12% in wet group.

CONCLUSIONS; There was insignificant static differences (Chi-Squared p=0.3411) between the two regimens and both can be used for treatment. However, clinically gentle ear syringing is less time consuming, Less complicated and more meticulous in deep recess cleaning.

Key words *:* Otomycosis; Ear syringing, dry suction cleansing, anterior metal recess toilet (AMR)

Introduction;

Otomycosis is a subacute or chronic superficial fungal infection of EAC usually unilateral [1]. Described by Mayer (1843) and termed "Otomycosis" by Virchow [2]. Environmental humidity, sweating and swimming in hot weather [3], Allergy, atopy [4], localized trauma and diminished local tissue resistance, alteration in immune state (immuno-compromised patients), systemic steroids, prolonged use of antibiotics and diabetes can all increase the incidence [2] Otomycosis is common in open cavity mastoidectomized and occlusive hearing-aid mould patients [5]. It accounts to 5-25% of otitis externa cases[6]. Debris often collects in AMR failure to clean which may account for recurrences [7]. Aspergillus and Candida are most common fungi isolated [8]. Common presenting symptoms are pain, pruritus, otorrhea, hearing loss and tinnitus. Otoscopy shows delicate hyphae, molds and spores (coninidiophores) in aspergillosisCandida forms whitish mycelia mats which are yellowish with cerumen [9] .Predisposing factor elimination, thorough canal cleaning and antifungal agents are treatments essentials [9] AMR meticulous debridment is the treatment mainstay[10]. With intact drum and absence of ear disease

Email: yousifec55@yahoo.com

it is worthwhile syringing and drying the ear gently[11]. There is no fear of fungal growth provided that the canal is thoroughly and carefully dried after syringing[12] in addition water seems to be an effective inexpensive softener [13]. Topical antifungals are specific (clotrimazole, miconazole, econazole, nystatin, tolnaftate, potassium sorbate) and non-specific (acetic acid, alcohol, boric acid, m-cresyl acetate and gention violet) [14]. Infection prevention and recurrence includes ear self-cleaning refraining and avoiding showering or swimming[15].

Method; The study conducted on 91 patients (99 ears) suffering from otomycosis on clinical ground in Sulaimani hospital ENT consultation clinic from April 2006-November 2007. Data collection of name age, sex, address, occupation, chief complaints, associated symptoms and signs, post-treatment outcome and any complications were recorded. Complete otolaryngological and dermatological examinations were performed. Informed consent was obtained from patients for applied procedures. The debris from 41 ears were swabbed and sent for Sabourauds Dextrose Ager surface culture in the department of biology-Sulaimani sciences college, incubated at laboratory ambient (25-27C) for 2-3 weeks aerobically. Fungal isolate (moulds) were identified on the basis of colonial morphology and slide cultures. The culture examined for growth every 3-4 days. Ears were divided into group A (49 ears) for suction cleaning (dry ear cleaning) and group B (50) for gentle (wet ear cleaning) syringing by using clean water at body temperature or normal saline. Cases with otitis media, TM perforation and previous otological operation submitted for suction cleaning. Patients were put on 1%clotrimazole drop 2 drops twice daily for 3weeks and protection against ear moistening while showering. Patients were called for follow-up on 7^{th}, 14^{th}, 21^{st} of therapy assessed for sign and symptoms of otomycosis.

The efficacy and safety of the 2 lines were evaluated. Patients also completed self assessment form after applied procedures, using a study forma, asking them to report aspects of common symptoms in both groups. Data entry and analysis were carried out by using (STSAGRAPHIC) software version (15)-2008. The correlation between dependent variables (methods of ear cleaning) was assessed by using (chi squared test p-value). A value of 0.05 obtained considered insignificant statistically.

Results: The common presenting symptoms solely, or in combination were pain (94.5%), ear fullness (74.72), pruritis (58.24), hearing impairment (40.65), discharge (20.87) and headache (14.82) as shown below in table (1)

T.M: Tympanic Membrane.
EAC: External auditory canal
OE: Otitis externa.
AMR: Anterior meatal recess or (deep meatal recess).

Table (1) Common symptoms among the patient groups (n=91)

	Otalgia	Ear fullness	Pruritis	Hearing loss	Otorrhoea	Headache	Total
Otalgia	**26**	**19**	**15**	**14**	**07**	**04**	**85**
Ear fullness	**19**	**19**	**17**	**07**	**03**	**03**	**68**
Pruritis	**15**	**17**	**11**	**07**	**03**	**02**	**55**
Hearing loss	**14**	**07**	**07**	**04**	**03**	**02**	**37**
Otorrhoea	**07**	**03**	**03**	**03**	**02**	**01**	**19**
Headache	**04**	**03**	**02**	**02**	**01**	**01**	**13**
Total	**85**	**68**	**55**	**37**	**19**	**13**	
Percentage	**93.4%**	**74.72%**	**60.43%**	**40,65%**	**20.87%**	**14.28%**	

Table (2) Predisposing factor in otomycosis

Predisposing factors	Ear moisture	Self-cleaning habit	Ototopical drops	Dermatophytosis
Ear moisture	**37**	**24**	**17**	**09**
Self-cleaning habit	**24**	**19**	**09**	**05**
Ototopical drops	**14**	**09**	**07**	**03**
Dermatophytosis	**09**	**05**	**03**	**01**
Total	**84**	**57**	**36**	**18**
Percentage	**92.3%**	**62.63%**	**39.56%**	**19.78%**

The common predisposing factors were excessive moisture in 84 ear (92.3%), self-cleansing habit in 57 ear (62.63), topical ear drops 36 ear (39.56) and itching elsewhere in the body in18 ear (19.78%) as shown in the table (2).

The appearance of grey to black spores or mycelium was the most frequent finding (68.13), white deposits (13.18), purulent aural discharge (12.08%), wax and missed foreign bodies like cotton buds or clinix of attempted self-cleanising (7.69%, 5.49%). Result of cultures from 41 ears was as the following: Aspergillus niger 21 (51.22%), Candida albicans 8 (19.50%), A. fumigatus3 (7.32%), A. flavus2 (4.89%) mixed in 3 (7.32%) and in 4 cases (9.75%) negative. Complicated ears with associated chronic middle ear suppuration, eardrum perforation, ontological procedures and localized acute ototis externa constituted (32.32%) of cases. While uncomplicated cases with environmental and habitual risk factors were 67 (67.67%). Patients with previous ear disease were 19 (19.19%), those with already perforated TM were 5, prior ear operation were 5 and acute otitis media 3 as shown in the table (3).

Percentage of complete removal of debris was (69.69%), partial removal (17.17%) and negligible removal in (13.13%). Dry cleaning removable rate was complete in 31 ears and incomplete in 18 ears while syringing showed complete removal in38 ears and incomplete removal in 12 ears as shown in table (4).

Table (3) rate of complicated otomycosis at presentation.

Associated Pathologies	cases	percentage
Chronic ear disease	19	59.37%
TM Perforation	05	15.62%
Otological procedures	05	15.65%
Acute otitis externa	03	09.37%
Total	32	100%

Table (4) the rate of complete and incomplete ear cleaning in both groups.

	Complete removal	Partial removal	Negligible removal	Incomplete removal	Total
Dry cleaning	31(63.26%)	10	8	36.73%	49
Wet cleaning	38(76%)	7	5	24.0%	50
Total	69	17	13	30.3%	99
Percentage	69.69%	17.17%	13.13%	30.3%	100%

Table (5) Complication of initial aural toileting

	Patient dissatisfaction	Pain	trauma	vertigo	AOM	Residual disease	Total
Dry cleaning	9(9.09%)	07(7.07%)	09(9.09%)	05(5.05%)	3(3.03%)	04(4.04%)	37
Syringing	5(5.05%)	02(2.02%)	01(1.01)	01(1.01%)	1(1.01%)	05(5.05)	15
Total	14(14.14%)	09(9.09%)	10(10.1%)	06(6.0%)	04(4.04%)	09(9.09%)	52

The percentage of complication parameters were; patient dissatisfaction, pain, canal trauma, dizziness, acute otitis media AOM (may be due to inadvertent syringing in an already undetected perforated tympanic membrane coveredby fungal mass or by the fungal infection) and residual disease within period treatment.The percentage of total adverse effect of dry aural toileting group was 37.37% compared to 15.15% in wet cleaning group as shown in table (5).

Discussion: Otalgia was the most frequent symptoms in 85 patients (93.4%) which is high in comparison with Mugliston et al [16]. Zélia Braz Vieira da Silva Pontes et al [17]. Because the fungi are usually secondary invaders of tissue rendered susceptible by bacterial infection, physical injury or accumulation of cerumen in the EAC or ototopical examination all may lead to earache and intense pruritis. Pruritus was among chief complaints in 53% of current study population (Zélia Braz Vieira da Silva Pontes et al[17]) in accordance with our result of 55% although it had been cited as one of the hallmark symptoms up to 93% in other studies. Stern J [18], Harold Ludman[19]. Two-thirds of patients gave history of ear manipulation with a variety of contaminated devices ranging from cotton buds, hair pins, metallic devices, matchsticks. These results are in accordance with that from Singapore. V.T.K. Chow[20] .Self-cleaning of ears lead to mechanical damage of the skin barrier where fungi may grow. Lohks [21] . Secondary fungal infection is a well recognized complication of broad-spectrum antibacterial agents. Cohen et al[22]. In our study 19.78% of the

patients showed presence of concomitant dermatomycosis, the likely mechanism is compromising of the protective canal lining factors, narrowing of the canal which traps water and tendency of eczema to become infected[23]. Commonest isolated fungal species were Aspergillus sp. (51.21%), Candida sp.(19%) in accordance with Mahmoud abadi, Kumatowski P et al-2001[24], Raymundo Munguia , Sam J. Daniel [25]. The PH level in the normal ear canal is on the acidic side and Aspergilli experience optimal growth at a PH range of 5-7.Negative culture result may be due to previous treatment. Mixed fungal infection observed in 3 out of 41 (7.3%) similar to the finding of Joy MJ-1980[26], GeaneyGP[27] and Sree Ramaet al-1979[28]. Complication such as TM perforation (as aresult of otomycosis and treatment modalities) and serous otitis media(as aresult of otomycosis) are not uncommon and tend to resolve with treatment Tang Ho[8]. William et al observed 22cases of TM perforation within 5 years[29]. The rate (15.62%) of TM perforation at presentation in our study was similar to that of Pradhan B [30] (16%) and Kurnatowski et al[24] (12%).Patients satisfaction with aural toileting can be correlated with reported symptoms like ear infection ,activity limitations, pain and adherence to prescription regime as well as procedure side effects. Richard Shikiar et al [31]. Suction complication may be due to speculum insertion, suction tip noise, light source and epithelial lining of bony portion being very thin and sensitive Ford ES Ford ES[32]. Complication related to ear syringing is subjective reports of pain, noise, itchiness and dizziness in their second assessments when the symptoms not already present. Residual water can also promote infection Freeman RB[33]. Dry cleaning rate showed complete removal in 31 (63.26%) ears incomplete removal in 18 (36.73%) while in syringing group showed complete removal in 38 (76%) ears and incomplete removal in 12 (24%) ears. Failure of debris removal accounted for 29% of complications. Acute otitis externa 17%, TM perforation 15% and damage to the EAC 12% emerged as the next most common adverse events. Pain, vertigo, OE and discovered perforation each accounted for fewer than 10% of complication by Sharp JF et al-1990 [34]. The percentage of total adverse effect of dry aural toileting in group was 37.37% compared to 15.15% in wet cleaning group (table 5). Since the p-value is greater than or equal to 0.05, there was no significant statistical difference between the two procedures. But from clinical point of view gentle ear syringing seems to be less time consuming, less complicated and more meticulous in the AMR cleaning.

Conclusion; There was no statistically significant difference between wet and dry ear cleaning and both can be used as initial treatment for otomycosis.

Clinically, gentle ear syringing seems to be less time consuming, less complicated and more meticulous in the AMR cleaning both in the physician and patients opinion.

The predominant etiological agents in the study were Aspergillus Niger and Candida albicans.

Many patients had history of prior topical ear drop and otological procedure.

The presence of a mastoid cavity was associated with higher residual and recurrent disease rate.

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ڕۆڵی شتن وکاریگەری لە لابردنی سوتوی کەڕوو لە نزیك پەردەی گوێ

یوسف ئیبراهیم چەلەبی* , سەروەت تۆفیق سان ئەحمەد .
***کۆلێژی پزیشکی سلێمانی , ** نەخۆشخانەی فێرکاری- هەرێمی کوردستان- عێراق**

پوختــــە

پێشەکی:
هەوکردنی کەڕوویی کەناڵی گوێ یەکێکە لەنەخۆشیە تا ڕادەیەك باوەکان چارەسەرکردنیی دەخایەنێت ودەشێ ناوبەناو سەرهەڵداتەوە . پاککردنەوەی کەناڵەکە بەتایبەتی دیوی ناوەوەی نزیك پەردەی گوێ لە سوتوی هەوکردنەکە هەنگاوێکی سەرەکی یە لە چارەسەر.
ئامانجەکان:
١. دیاریکردنی شێوازی دەرکەوتنی نیشانەکان وهۆکارەکانی دەرکەوتنی نەخۆشیەکەز
٢. ڕادەی کاریگەری بەکارهێنانی هەردوو شێوای تەڕیان وشك بۆ پاککردنەوەی کەناڵی گوێ
٣. هەڵسەنگاندنی ڕۆڵی شتن و کاریگەری لە لابردنی سوتوی کەڕوو لەنزیك پەردەی گوێ

ڕێگاکان:

ئەمە لێکۆڵینەوەیەکی بەراوردکاریی هەڕەمەکی داهاتوویی یەلەسەر ٩١ نەخۆش (٩٩گوێ) ئە نجامدراوە لە نەخۆشخانەی فێرکاری سلێمانی وکلینیکی ڕاوێژکاری سلێمانی لەماوەی نێوان نیسانی ٢٠٠٧-تشرینی دووەمی ٢٠٠٨.

نەخۆشەکان دابەشکراون بە دوو گروپ:

گروپی ا(٤٩کوێ) تەنها شێوازی وشککردنەوەی کەنالەکە بەکارهاتوە ,بۆ گروپی ب (٥٠گوێ) شتنی گوێ ئە نجامدراوە بەبەکارهێنانی ئاو یان گیراوەی خوێی کلۆریدی سۆدیۆم.

کاریگەری وماکەکانی هەریەکەیان دەسنیشانکراوە بەبەکارهێنانی بەرنامەی ئاماری ڤێرژنی ١٥ی ٢٠٠٨(stat graphics)

ئە نجامەکان:

هۆکاری سەرەکی توشبون بریتی بوو لە شێدارىبونی گوێ (٩٥,٥٪) خوگرتن بە پککردنەوەی نادروست(٦٢,٦٣٪). پاشان بەکارهێنانی زۆری قەترەیدژەهەوکردنی گوێ(٣٦,٢٦٪) هەوکردنی کەڕویی پێست (١٩,٧٨٪).

گرفت و نیشانەکان: زۆربەی نەخۆشەکان لەبەر گوێنێشە(٩٤,٥٪)،هەستکردن بەگوێپڕی(٧٤,٧٢٪) وخوران(٥٨,٢٤٪) سەردانی پزیشك دەکەن هرچی کەمبونی بیستن(٤٠,٦٥٪)،بونی دەردراو(٢٠,٨٧ ٪) وسەرئێشە(١٤,٨٢٪) هۆکاری تری سەردان بوون.

پاش ئە نجامدانی پشکنینی تاقیگەیی بۆ ٤١ نەخۆش بۆ ناسینەوەی جۆری کەڕوەکان زیاتر لە نیوەیان (٥١,٢١٪) pergillus niger دەرچوە پاشان بەڕێژەی دووەم . (١٩,٢١٪) هاتوە Candida albicans هەریەك لە Aspergilus fumigatus و Aspergillus flavus , (٧,٣١٪)،(٤,٨٧٪)یەك لەدوای یەك هاتووە , هەندێکیان زیاتر لە جۆرێك بەدیدەکرا(٧,٣١٪) یاخود هەر بەدی نەدەکرا(٩,٤٥٪).

پاککردنەوەی گوێ لەسوتوی کەرو بەڕێگەی پاککردنەوەی وشك دەریخست پاکردنەوەی تەواولە ٣١ (٦٣,٢٦٪) گوێ وە پاککردنەوەی ناتەواو لە ١٨(٣٦,٧٣٪) گوێ بوو لە کاتێکدا پاککردنەوە بە شتن دەریخست پاککردنەوەی تەواو لە ٣٨ (٧٦٪) گوێ وە پاککردنەوەی ناتەواو لە ١٢ (٢٤٪) گوی بوو. ماکە لاوەکییەکانی پاککردنەوەی ووشك ٣٧,٣٧٪ بوو بە بەراوورد لەگەڵ ١٢,١٢٪ بە پاککردنەوەی تەڕ.

دەرەنجامەکان:

پاش شیکاری ئاماری لێکۆڵینەوەکە بە ڕێگای(Chi Square (p=0, 3411 دەرکەوت کە بۆ پاککردنەوەی گوێلە سوتوی کەڕو و هەردوو ڕێگای شتن وڕێگای وشك دەتوانرێ بەکاربهێنرێ بێ جیاوازی .هەرچەندە لەڕووی کلینیکیەوە شتن ئاسانترە,کەمتر دەخایەنێت وتارادەیەك کاریگەرترە لە پاککردنەوەی بەشی ناوەوەی کەنالی گوێ..

دور مختلف طرائق تنظيف الاذن في علاج التهاب الاذن الخارجية الفطري

يوسف ابراهيم جلبي كلية طب السليمانية / كردستان / العراق

سروت توفيق سان احمد طالب دراسة الدبلوم

الملخص

التمهيد : تعتبر التهاب الاذن الخارجية الفطري مشكلة سريرية شائعة نسبياً حيث تتطلب معالجة طويلة المدى ولها الميل الى التكرار, تنظيف قناة الاذن الخارجية وخاصة الجزء العميق منها قرب طبلة الاذن تعتبر اهم خطوة في علاج المرض.

الاهداف : ١) تحديد ظهور الاعراض والكشف عن العوامل المهدة للاصابة بالمرض.

٢) تقدير كفاءة الطريقتين(الجاف والرطب) لتنظيف الاذن الخارجية.

٣) تقييم دور التنظيف بالسوائل في الازالة الفعالة والامنة للتراكم الفطري قرب طبلة الاذن.

الطرق : دراسة مقارنة عشوائية متوقعة اجريت على ٩١ مريضاً (٩٩ اذنا) في العيادة الاستشارية لمستشفى السليمانية التعليمي من نيسان٢٠٠٧ لغاية تشرين الثاني ٢٠٠٨ قُسم المرضى الى مجموعتين:

مجموعة أ (٤٩ اذن) اجريت لها تنظيف جاف ومجموعة ب (٥٠ اذن) اجريت لها غسل قناة الاذن بالماء العادي او المحلول الملحي المتعادل(0.9% Nacl) ثم قورنت النتائج ونسبة التعقيدات في كلتا المجموعتين بادخال وتحليل البيانات حاسوبياً باستعمال برامج (statgraphics) نسخة ١٥-٢٠٠٨.

النتائج : العوامل المهدة للاصابة تضمنت : رطوبة الاذن (٩٤,٥٪),عادات تنظيف الاذن الذاتية (٦٢,٦٣٪) , استخدام الادوية ذات التاثير الموضعي(٣٦,٢٦٪), والالتهابات الجلدية الفطرية (١٩,٧٨٪) .

الاعراض والعلامات الظاهرة : كانت الم الاذن (٩٤,٥٪), الشعور بامتلاء الاذن (٧٤,٧٢٪) ,حكة الاذن (٥٨,٢٤٪),اختلال السمع (٤٠,٦٥٪), الافرازات (٢٠,٨٧٪), والصداع (١٤,٨٢٪)

اجري الفحص المختبري على ٤١ عينة لعزل انواع الفطر المسببة للمرض فكانت النتائج: رشاشيات نيجر (aspergillus niger) (٥١,٢١٪)، المبيضات البيض (candida albicans) (١٩,٥٪)، رشاشيات الدخناء (A. fumigatus) (٧,٣١٪)، رشاشيات فلافز (A. flavus) (٤,٨٧٪)، انواع مختلطة (٧,٣١٪) وفي (٩,٤٥٪) لم يتم عزل اي فطر.

الحالات المهدة للمرض بالتعرض للعوامل البيئية والمالوفة شكلت (٦٧,٦٧٪), والحالات الباقية ذات سابقة مرضية اذنية (٥٩,٣٦٪), عمليات جراحية سابقة (١٥,٦٥٪), ثقب غشاء طبلة الاذن (١٥,٦٥٪), اوالتهاب اذن حاد(٩,٣٧٪) .

الاستنتاجات : كشفت النتائج بعدم وجود اختلافات هامة بشكل احصائي (Chi squared , P = 0.3411) بين الطريقتين الا ان كلتاهما يمكن ان تستعمل لمعالجة المرض وان كانت من الناحية السريرية غسل الاذن عملية لطيفة , تستهلك وقتاً اقل واقل تعقيداً واكثر دقةً في تنظيف منطقة امام طبلة الاذن في راي الطبيب والمريض .

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