

Cerumen auris: a survey of its management at the National Ear Care Center, Kaduna, Nigeria.

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Abstract

Background There are several studies on cerumen auris but very few of these studies are from our region. This prompted our study on the frequency and management profile of cerumen auris in our center. **Methods** A 1-year retrospective survey of patients with cerumen auris in the outpatient department of the National Ear Care Center, Kaduna. **Results** A total of 511 patients presented with cerumen aged between 7 months and 95 years old. The male female ratio was 1:1.6. Symptoms were present in 418 (81.8%) patients, 93 (18.2%) patients were asymptomatic. Bilateral cerumen occurred in 220 (43%) patients and was unilateral in 150 (29.4%) patients. The commonest method of removal is by ear syringing. Complications were failure of wax removal in 39 (7.6%), otalgia in 15 (2.9%), dizziness in 8 (1.6%) and canal lacerations in 11 (2.2%) patients. **Conclusions** Cerumen auris occurs commonly in our region with ear syringing being the commonest mode of treatment, a procedure relatively cost effective and safe.

INTRODUCTION

Cerumen is a naturally occurring normally extruded product of the external auditory canal composed of secretions, sloughed epithelial cells and hair¹.

It is usually asymptomatic but may become impacted in one or both ears causing discomfort, hearing loss, tinnitus, dizziness, chronic cough and otitis externa².

It occurs in approximately 10 percent of children, 5 percent of normal healthy adults, 57 percent of older patients in nursing homes and 36 percent of patients with mental retardation³. In Ibadan, it accounted for 99 percent of the ear syringing performed over a 16 months period⁴. The risk factors for cerumen accumulation include ear canal hairs, cotton swabs, hearing aids and bony growths such as osteoma⁵.

When it occurs, the treatment is removal. The methods of removal are by the use of ceruminolytic agents, curette method (using either a Jobson-Horne probe or St. Bartholomew wax hook) and lavage⁵. The practice of cerumen removal has been in existence since the ancient Egyptians syringed suppurating ears with olive oil, frankincense and salt⁶. The use of unusual remedies like the instillation of goat urine, gall and steam are recorded⁷.

It is the commonest otorhinolaryngological procedure performed by the general practitioners and the commonest source of their iatrogenic otolaryngologic problems⁸.

Complications can occur during cerumen removal and these include otalgia, tympanic membrane perforations, external auditory canal lacerations, dizziness and failure of wax removal⁹.

Medical literature is awash with the subject of cerumen but very scanty contributions from our region. We do not have a baseline report on the practice of cerumen removal in our center. This prompted a retrospective survey to determine the number of cerumen removals carried out in our center within a one-year period, the method of removal and the incidence of complications.

PATIENTS AND METHODS

This is a retrospective chart review of patients presenting with cerumen auris to the outpatient department of the National Ear Care Center, Kaduna in the period January to December 2008.

Approval for this study was obtained from the Ethical Clearance Committee of the National Ear Care Center, Kaduna.

The medical records of these patients was analyzed for age, gender, presenting symptoms, presence of unilateral or bilateral cerumen, finding at otoscopy, the presence or absence of predisposing factors for cerumen, the method of removal and the incidence of complications following removal.

RESULTS

A total of 511 patients presented with ear wax in the study period aged between 7 months and 95 years old with 200 of them being males and 311 females giving a gender ratio of 1:1.6.

The highest prevalence was in the 0-10 years age group (Table 1).

Figure 1

Table 1: Age distribution of patients with cerumen auris

Age (years)	Females	Males	Total	Percentage
0-10	140	85	225	44
11- 20	54	27	81	15.9
21- 30	34	26	60	11.7
31- 40	29	22	51	10.0
41- 50	17	18	35	6.8
51- 60	16	15	31	6.1
61- 70	11	4	15	3.0
71- 80	6	3	9	1.8
81- 90	3	0	3	0.6
91- 100	1	0	1	0.2

Ninety-three (18.2%) patients were asymptomatic at presentation and 418 (81.8%) patients presented with symptoms- hearing loss (n=418) and tinnitus (n=72).

The findings on otoscopy was the presence of wax in the ears with 135 listed as impacted and the rest as simply cerumen auris.

Two hundred and twenty (43%) patients- 134 females and 86 males had bilateral cerumen auris, 150 (29.4%) patients- 95 females and 55 males had unilateral cerumen auris. Of these, 77 (15.1%) patients had cerumen in the right ear and 73 (14.3%) in the left. In 141 (27.6%) patients, there was no indication of the site (Table 2).

Figure 2

Table 2: Site of occurrence of cerumen auris

Site	Females %	Males%	Total%
Bilateral	134 (26.2)	86 (16.8)	220 (43)
Right	45 (8.8)	32 (6.3)	77 (15.1)
Left	50 (9.8)	23 (4.5)	73 (14.3)
Unlisted	82 (16.1)	59 (11.5)	141 (27.6)

Six (1.2%) patients were using hearing aids but there was no indication that other patients had other forms of predisposing factors to cerumen auris.

All our patients who presented with symptoms were prescribed olive oil to instill into the ear to soften wax before removal was effected.

Forty six (9%) patients had complete cerumen removal by the use of wax hooks during their first hospital visit while 465 (91%) patients instilled drops of olive oil for duration of 5 to 7 days before ear syringing. Thirty nine (7.6%) patients had failure of wax removal, paying visits of about 1 to 4 times before removal. Four hundred and seventy two (92.4%) patients had their cerumen removed at first attempt. Other complications listed include otalgia in 15 (2.9%) patients, dizziness in 8 (1.6%) patients and canal lacerations in 11 (2.2%) patients (Table 3).

Figure 3

Table 3: Complications following cerumen removal

Complications	Frequency	Percentage
Failure of wax removal	39	7.6
Otalgia	15	2.9
Canal lacerations	11	2.2
Dizziness	8	1.6

DISCUSSION

Cerumen impaction is a reversible cause of conduction deafness ⁵. Its removal is the commonest procedure performed in otolaryngological clinics. It is the commonest otorhinolaryngological procedure performed by the general practitioners and the commonest source of their iatrogenic otolaryngologic problems ⁸.

Approximately 150,000 cerumen removals occur each week in the United States⁹ but no record appears to exist in our region. However, in a study done in Ibadan, cerumen accounted for 99% of the ear syringing performed over a 16 months period⁴.

This study shows that 511 patients presented to our center in one year with cerumen auris. Females were more in number with the highest incidence occurring in children under 10 years of age (Table 1). The incidence of cerumen auris also decreased with increasing age. All the parents in our study agreed that they use cotton swabs to “clean” the ears of their children. This we know is a risk factor responsible for distorting the epithelial migration in the ears of these children and allowing for accumulation of cerumen.

The commonest indication recorded for cerumen removal is hearing impairment amongst other symptoms¹⁰. This study shows a similar finding with all of our patients with symptoms having hearing impairment. The hearing impairment is usually conductive in type and removal of cerumen can improve auditory acuity. Studies have shown a 5dB improvement in auditory acuity following removal of occlusive cerumen¹¹. This may be sufficient to allow normal social functions in a patient whose hearing thresholds border on the use of a hearing aid.

In our study, some patients presented without otologic symptoms. These patients presented with other pathologies and routine otological examinations revealed cerumen auris for which they also received treatment.

The usual practice in our center is to instruct the patients to instill a few drops of olive oil as softeners into the ear/ears with cerumen for 5 to 7 days and then present to the hospital for cerumen removal either by syringing or by the use of a wax hook. We are aware of other ceruminolytic agents such as cerumol, wassol, exterol (5% urea-hydrogen peroxide in glycerin) but we prescribe olive oil for our patients because of its cost effectiveness- it is readily available and affordable.

The treatment for cerumen auris is removal either by irrigation (with or without the use of ceruminolytics) or manually with currettes or wax hooks. No published trials have compared the various methods of removal¹². A relatively inexpensive technique using a rigid endoscope in conjunction with a Jobson-Horne probe and St. Bartholomew’s wax hook has been described which might be of help especially to primary care practitioners who do

not have access to an operating microscope in the outpatient department for dewaxing patients¹³.

However, not exclusively the nurses in our center perform ear syringing. These nurses are ear, nose and throat trained. The method involves sitting the patient down comfortably on a chair, protecting the patient with a plastic sheet to collect water, using water at a temperature of about 37°C, directing the water jet towards the occiput (not directly on the tympanic membrane) and inquiring from the patient about side effects such as otalgia and dizziness. After syringing, the ears are inspected. A wax hook is often used to aid removal under direct vision with proper lighting.

Otolaryngologists know the ranges of complications that follow ear syringing for cerumen⁸. These complications can be encountered even with well-trained personnel as seen in our study where a complication rate of 6.7% was experienced (Table 3).

Four hundred and seventy two (92.4%) of our patients required not more than one attempt at ear syringing. This is similar to the finding in Ibadan⁴.

All the patients in our series with otologic symptoms at presentation reported a subjective disappearance of tinnitus and an improvement in hearing following removal of cerumen even though ascertaining an increase in hearing acuity in these patients using by pure tone audiometry were not done. We previously thought the patient load and the cost of testing was too heavy to use objective improvement in hearing as a primary outcome measure. However, a study objectively comparing hearing levels following ear syringing for impacted cerumen is currently ongoing in our center in which volunteering patients are being tested at no cost to the them.

CONCLUSIONS

Our study shows that cerumen auris occurs commonly in our region with ear syringing being the commonest mode of treatment.

By following the recommendations of otolaryngologists in cerumen removal techniques, ear syringing for the treatment of cerumen auris is a relatively cost effective and safe procedure.

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