

## A SURVEY OF GENERAL MEDICAL PRACTITIONERS' KNOWLEDGE OF MANAGEMENT OF CERUMEN AURIS IN NORTH-EASTERN NIGERIA

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### ABSTRACT

**Background:** Cerumen auris (Ear wax) is the among common ear disorders seen by the General Practitioners (GPs). Cerumen auris removal is an otorhinolaryngological procedure most commonly performed by the GPs and it is their commonest source of iatrogenic otologic problems. This survey was conducted among GPs to seek their knowledge of managing cerumen auris and its outcome in North-Eastern Nigeria. **Methods:** This is a descriptive cross sectional study on the management of cerumen auris among GPs practicing in North- Eastern Nigeria. Closed ended structured questionnaires were administered to GPs during continuous medical education sessions carried out in four states (Adamawa, Borno, Gombe and Yobe)s of the North Eastern Nigeria from June to December, 2011. Data collected were analysed using SPSS computer software version 16.0. **Results:** a total of 130 questionnaires were administered to the GPS, 91% were completed and retrieve. Eight-five per cent of the respondents were males and 15% were females. About 14% of the GPs had no otoscope nor were it provided by their hospital. Sixty-nine of the GPs see less than 11 patients with cerumen auris per month, 1.7% see between 31 and 40 patients per month and none see greater than 40 patients per month. About 13% of the GPs diagnosed cerumen auris with history alone. About 55% of the GPs use wax softeners and ear syringing together as form treating cerumen auris. Ear pain is the commonest complication encountered by the patients after ear syringe. **Conclusions:** Application of wax softeners followed by ear syringing is the mode of treatment adopted by most practitioners, although they don't follow the standard method. There is a need for continuous medical education on the management of cerumen auris among GPS.

**KEYWORDS:** Ear wax, Knowledge, General Practice

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### INTRODUCTION

Cerumen auris (ear wax) is a mixture of secretions from two different gland types (ceruminous and pilosebaceous<sup>2</sup> together with squamous of epithelium, dust and other foreign debris. Cerumen auris is among the common ear conditions seen by General Practitioners (GPs). Cerumen auris removal is an otorhinolaryngological procedure most commonly performed by GPs and is their commonest source of iatrogenic otorhinolaryngological problems.<sup>1</sup> An average of 150,000 cerumen removal performed per week in the United

States.<sup>2</sup> There are no documented evidenced of rate of cerumen auris removal in the North-Eastern Nigeria. Although in south-western Nigeria cerumen account for 99% of ear syringing performed over a 16 months period.<sup>3</sup>

Cerumen auris may cause itchiness, tinnitus, otalgia or sudden hearing loss; however some patients present without otologic symptoms and only otologic examination would reveal cerumen<sup>4</sup> and its removal may be required in order to carry out adequate otoscopic examination. The Cerumen may obscure the tympanic membrane and hence the diagnosis occlusive or impacted wax,<sup>1,5-7</sup> causing or contributing to hearing impairment. Some suggest that Cerumen is an infrequent cause of hearing impairment<sup>8</sup> and only occurs with complete occlusion, where as others state the sensation of deafness may be marked and sudden.<sup>9</sup>

There are potential complications of ear syringing for removal of wax, this include tympanic membrane perforation, otitis externa, trauma to external auditory canal, vitreous, cardiac arrest.<sup>1</sup> We have seen several patients from primary and secondary public hospitals and, private hospitals who had complications of ear syringing. This warranted the evaluation of management of Cerumen auris by general practitioners (GPs).

#### **MATERIALS AND METHODS**

This is a descriptive cross sectional study on the management of cerumen auris among GPs practicing in North- Eastern Nigeria. Closed ended structured questionnaires were administered to GPs during continuous medical education sessions carried out in various states of

the North -Eastern Nigeria from June to December, 2011. The questionnaires were administered at the beginning of each session and retrieved by the end of the session. A total of 130 questionnaires were administered during 5 different sessions in 4 (Adamawa, Borno, Gombe and Yobe) of the 6 states of the North East. Data on age, gender place of work, duration of practice, number of patient(s) with ear wax seen per month, method of treatment of ear wax and complication of ear syringe were collected and analysed using statistical package for social science (SPSS) version 16.

#### **RESULTS**

Of the 130 questionnaires administered, 119 (91%) were completed and retrieved (Table I). About 85% (101) of respondents were males and 15% (18) were females. About 61% of the practitioners have otoscope provided by the hospital while 25% had personal otoscopes and 14% have no otoscope at all. Table II shows distribution of number of patients seen with cerumen auris.

Approximately 69% of the practitioners see less than 11 patients per month. About 55% of practitioners offer wax softener followed by ear syringing as depicted in Table III. Clinical methods of diagnosis of cerumen auris by Gps is showed in Figure 1. Fifty one percent (51%) of respondents diagnosed cerumen auris using other forms of light source without use of otoscope.

The commonest complaint after ear syringing was ear pain as showed in figure 2.

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**Management of Cerumen Auris**

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**Table I:** Distribution of respondents by State of residence

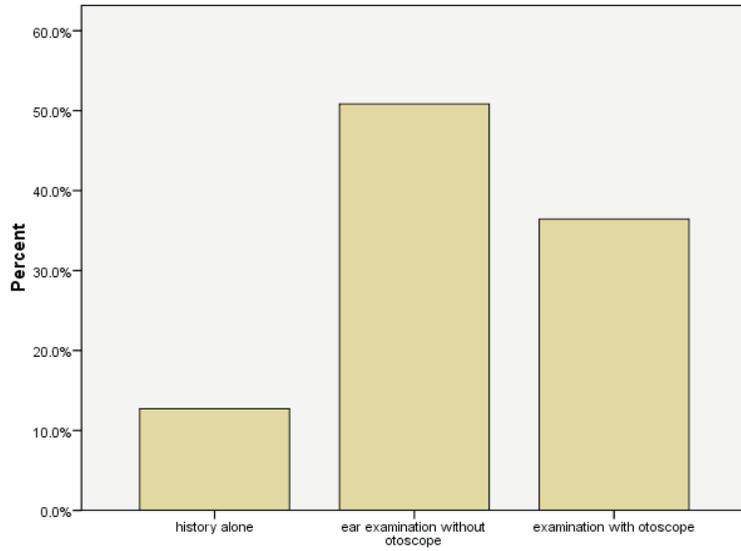
<b>State</b>	<b>Frequency/percent (%)</b>
Adawama	24 (20.2)
Bauchi	13 (10.9)
Borno	41 (34.5)
Gombe	13 (10.9)
Taraba	11 (9.2)
Yobe	14 (11.8)
Others	3 (2.5)
<b>Total</b>	<b>119 (100)</b>

**Table II:** distribution of patients with cerumen auris seen/ month

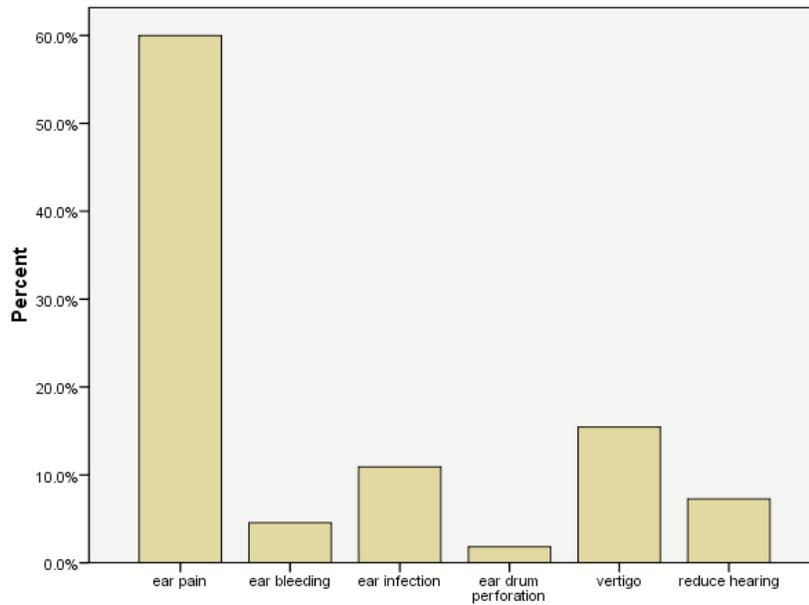
<b>Patients</b>	<b>Frequency/percent (%)</b>
<11	82 (68.9)
11-20	27 (22.7)
21-30	8 (6.7)
31-40	2 (1.7)
<b>Total</b>	<b>119 (100)</b>

**Table III:** Treatment modalities offered

<b>Method</b>	<b>Frequency/percent (%)</b>
Manual removal	12 (10.1)
Wax softener alone	11 (9.2)
Wax softener with ear syringing	66 (55.5)
Referral to ENT specialist	30 (25.2)
<b>Total</b>	<b>119 (100)</b>



**Figure I:** Clinical methods of diagnosis of cerumen auris by GPs



**Figure 2:** Complications after ear syringing.

### DISCUSSION

The desire of individual patient to be, as it were, Cerumen free should not be underestimated. Many patients believed that Cerumen is a pathological secretion and, that its mere presence is reason for its removal. There is little doubt that this attitude contributes greatly to the amount of ear syringing for cerumen auris that were have observed.

The high response rate (91.0%) suggests a high level of interest by the GPs in this common condition, for which there were few guidelines. The removal of impacted Cerumen may be necessary if it prevents a thorough examination of the tympanic membrane. The results show an average of 10 patients/month/doctor with Cerumen auris seen by GPs, though is only an estimate made by the participating GPs, the average figure confirms Sharp's<sup>10</sup> finding that GPs syringe about nine patients a month.

Many people have ear wax, present without it causing symptoms. It can be removed to relieve many different symptoms, including tinnitus, earache, and vertigo, a feeling of fullness, irritation, and hearing aid problems, as well as deafness.<sup>11</sup> In this study, complains by the patients to GPs were sudden hearing loss, ear infection, tinnitus, itchiness and otalgia.

The examination of the external auditory canal is the first essential for the diagnosis of Cerumen auris. The results show 85.7% of GPs owned otoscope or available in their unit/ hospitals while the remaining 14.3% do not have otoscope. 53.85 carry out gross examination of the ear with help of illumination, 30.3% use otoscope and the

rest do not examine the ears, and make diagnosis of Cerumen auris on history alone.

Cerumen auris can be removed from the ear by ceruminolytics, ear syringing, suction or hooking it out under direct vision<sup>1</sup>. Various softening agents and ceruminolytics (including oils and aqueous preparations) have been promoted as an adjunct or alternative to syringing.<sup>8,12- 17</sup> These have two main actions, (i) to soften Cerumen prior to syringing or (ii) to disintegrate the Cerumen thus avoiding syringing.<sup>18</sup> The results show 54.6% GPs treat Cerumen auris with ear syringing with or without use of wax softener, 10.1% treat manually with instruments and 25.2% refer to ENT specialist. Oil was the ceruminolytics agent often prescribed and cerumol was the proprietary solution used most often.<sup>10</sup> Cerumol has been shown to be significantly more effective than bicarbonate solution and marginally better than olive oil or waxol in aiding Cerumen removal.<sup>16</sup> In the study 40.3% of GPs uses olive oil as Cerumen softening agent, while 30.3% uses cerumol. Although 21.0% of the GPs do not prescribe ceruminolytic agent, they either syringe without soften the Cerumen or remove manually.

The removal of Cerumen has been practised since the ancient Egyptians syringed suppurating ears with olive oil, Frankincere and salt.<sup>19</sup> Other historical remedies include the injection of goat urine, gall and instillation of steam.<sup>20</sup>

Most GPs syringe Cerumen auris with a traditional ear syringe, which can develop pressure of up to 16kpa (110psi). A few use other methods, including dental irrigation

systems such as the water pik.<sup>21</sup> In this study 55.9% uses conventional ear syringe, 33.6% uses intravenous canular size 14 or 16G with 20mls or 50mls syringe. None of the GPs in the study uses electric powered irrigation system. 33.5% of GPs perform ear syringing for the removal of Cerumen auris while 54.6% delegate practice nurse. Only 42.9% of the GPs re-examined the ears that were syringed.

The range of complication encountered after the procedure is well recognised by ENT specialist<sup>1</sup> but some GPs were unaware of any potential hazards. The referral rates of patients with complication after ear syringing suggest a rare of major complications of 1/1000 ear syringed.<sup>19</sup> Although the incidence of complication after syringe in out department is not known, patient refers to the department mostly with otitis externa, otalgia and vertigo. The study shows complications encountered by GPs after ear syringe: ear pain 55.5%, vertigo 14.3%.

## CONCLUSION

Cerumen auris is an otologic disorder commonly seen by GPs. The removal of cerumen auris is essential, as sooner or later a hearing loss, tinnitus, intense itching, skin reaction or otitis external will occur. Application of wax softeners followed by ear syringing is the mode of treatment adopted by most GPs in our environment. Fortunately the procedure is usually simple but there are difficult cases which demand technical skill. Though most GPs don't follow the basic guiding principle of ear syringing and nursing staff were not thought the standard way of carrying out ear syringing ended off with unintended complications. There is a need for continuous medical education on the management of cerumen auris among GPs. Also putting nursing staff in the right way of ear doing syringing so that, to avoid most of the complication which were avoidable. ■■■

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