

Incidence of External Ear Canal Folliculitis

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Abstract

Background: To analyze the incidence of External Ear Canal Folliculitis (EECF) in adult population of district Bannu.

Methods: In this descriptive study 100 patients with ear ache, presented in four quarters of the year were included. Complaints, and findings on physical examination including otoscopy results, diagnosis were recorded. Inclusion criteria was adults (18+) with ear pain as a major complaint. We included the cases with another major complaint only when it was related to the ear pain (e.g. referred pain from sinusitis, tonsillitis). Exclusion criteria was antibiotic treatment in the last 10 days was marked as exclusion criteria. Both the rates of external ear canal folliculitis and the rate of Non-external ear canal folliculitis were compared. We also subdivided the different diagnostics under the title "folliculitis channel of the non-outer ear." The prevalence of the external ear canal folliculitis diagnosis was calculated, including subdivision by sex and age groups, by location in the ear canal including posterior vs. anterior and by the quarters of the year.

Results: 35% of cases represented EECF were included. The ratio of male to female was observed 3: 2. The condition was maximum in 2nd & 3rd quarter of the year where as it was minimal in 1st and 4th quarters. Earache in adult patients was the most common principal inflammation, which is generally termed as EECF.

Conclusion: Different factors are being involved in its prevalence including poor hygiene, over crowding, bath in a contaminated water, hot weather, ear wax and lack of specialized care. Since treatment is only possible upon clinical diagnosis, doctors will likely be more reserved about oral antibiotics if EECF can be diagnosed appropriately.

Key Words: Ear canal, Folliculitis, Otoscopy

Introduction

External ear canal folliculitis is a confined skin infection of the external ear canal involving hair follicles, typically instigated by *Staphylococcus aureus*.

Folliculitis is termed as an inflammation and infection of hair follicles, the minute openings in the skin from which hair nurtures. Folliculitis is due to an incursion of bacteria that enter the follicles and cause a bacterial infection.¹ Folliculitis is most frequently the outcome of an infection of bacteria, staphylococcal. This causes inflammation and a red rash that is jarring and scratchy. The rash can happen on the skin or scalp any where.

The body attempts to combat the bacterial infection by transporting white blood cells to the infected follicles. This can end in the formation of pus-filled sores. In some cases folliculitis can lead to the formation of a boil. The inflammation can be either limited to the superficial aspect of the follicle with primary involvement of the infundibulum or the inflammation can affect both the superficial and deep aspect of the follicle. Deep folliculitis can eventuate from chronic lesions of superficial folliculitis or from lesions that are manipulated, and this may ultimately result in scarring.² Perifolliculitis, on the other hand, is defined as the presence of inflammatory cells in the perifollicular tissues and can involve the adjacent reticular dermis. Folliculitis and perifolliculitis can manifest independently or together as a result of follicular disruption and irritation.

The complaints of ear pain are very common in primary care practice. The diagnosis is classically based on medical history and thorough physical exam. The diagnosis of the clinician can be influenced, possibly negatively, by preconceived notions of prevalence that are partly based on personal experience and partly according to their medical knowledge. It is possible that a diagnosis of a folliculitis can be missed or delayed because some symptoms, such as a skin rash are similar to symptoms of other diseases or conditions.

External ear canal folliculitis is an inflammation of one or more hair follicles on any part of the skin including the scalp. The condition may result in scarring or hair loss. Folliculitis occurs when bacteria enters a follicle that has suffered some sort of trauma or injury such as where clothing rubs against the skin. A localized infection of the skin external auditory meatus

comprising one or more hair follicles is usually caused by Staphylococcus aureus. Patients have an area of tenderness corresponding to the area of pain reported in the external channel.³Currently, very little EECF mention can be found in the professional literature using PubMed and other Internet search engines.⁴ This notwithstanding, there seems to be acknowledged among the patient-centered websites this condition carries clinical relevance. ^{5, 6}We submit that it is a relatively common problem in primary care practice, largely misunderstood by most clinicians.

The first step in treating folliculitis is averting its existence.⁷Prevention includes maintaining hot tubs appropriately in the proper pH and using the right amount of chlorine. This ensures that the bacterium Pseudomonas aeruginosa do not grow in the water, which can get into follicles and cause an infection. In some cases it might be recommended that a person not use hair removal methods, such as waxing, shaving, and tweezing in order to prevent folliculitis. Mild folliculitis may need little or no treatment and often clears up on its own.⁸Medications that may be recommended include topical antibiotics and oral or topical medications to minimize itching. Severe folliculitis or folliculitis that does not go away on its own requires medical care. People with chronic diseases or conditions that lower resistance to infection should also seek prompt medical care if they develop any symptoms of folliculitis. Treatment includes oral antibiotics and not removing hair in the affected area for several months. Treatment also includes avoiding hot tubs until after the infection is cleared up.

Patients and Methods

In this descriptive study, performed in ENT department DHQ Hospital, Bannu, patients were enrolled during 4 quarters. in ENT unit of DHQ hospital Bannu. Patients (n=100) with earache as the presenting complaint were included. During each visit, we documented demographic information including patient age, sex etc, the date (month of the year), complaints, and findings on physical examination including otoscopy results, diagnosis etc. Inclusion criteria was adults aged 18 years or older with ear pain as a major complaint. We included the cases with another major complaint only when related to the ear pain (e.g. referred pain from sinusitis, tonsillitis). Exclusion criteria was antibiotic treatment in the last 10 days. Both the rates of "external ear canal folliculitis" and the rate of "Non-external ear canal folliculitis" were compared. We also subdivided the different diagnostics under the title "folliculitis channel of the non-outer ear." The prevalence of "the external

ear canal folliculitis" was calculated, including subdivision by sex and age groups, by location in the ear canal including posterior vs. anterior and by the quarters of the year.

Results

We examined 100 patients having a major problem of ear pain and who met our stated inclusion criteria. 35.0% of these cases represented EECF (Table 1). The largest number of cases of EECF produced in the 2nd(April-June) and 3rd quarters (July-Sep) of the year (15 & 28) (Table 2). The common substitute diagnosis for the chief complaint of ear pain that was not EECF was otitis media (n=15) and some cases had no specific findings (n=12) (Table 3). No significant difference was observed in rates among left and right ear or among male and female patients.

Table 1: External Ear Canal Folliculitis - Demographic profile

	Dx=EECF	Dx=NOT EECF
n=	35 (35%)	65 (65%)
Average age in years	40-45	30-40
Gender (Male)	19 (54.2%)	42 (65%)
Gender (Female)	16 (46)	23 (35%)

Table 2: Distribution of cases of EECF per Quarter

Quarter	No of Cases
Quarter 2 nd (April-June) 2014	10
Quarter 3 rd (July-Sep) 2014	15
Quarter 4 th (Oct-Dec) 2014	6
Quarter 1 st (Jan-March) 2015	4

Table 3: Other Diagnosis along with EECF

Otitis media	15
Myringitis	4
No specific findings	15
Malignant otitis	1
Total	35

Discussion

The results of this clinical trial show that ear ache in adult patients most often comes from pivotal inflammation, what we call EECF. The basic implementation of this descriptive study was our own clinical experience in primary education care, in which we found that frequent explanation of earaches in adults was a little focus of localized inflammation. Doctors who deal with complaints of earache in adults detect the same findings of the clinical examination

that we do. We mean that doctors see an inflammatory focus and frame their diagnosis into an otherwise "respectable" familiar diagnosis. suggest that during this elementary diagnostic procedure, physicians are almost inevitably influenced by representativeness bias^{9,10}. When patients present with earache, physicians expect to find evidence of infection during otoscopy. When it is detected in the external auditory canal, physicians usually define it as external otitis.

We find it possible to accept that EECF is a subtype of external otitis that was defined "as redness or swelling of external auditory canal or debris within the canal, accompanied by pain, itchiness".¹¹⁻¹⁸ That notwithstanding, we feel that the distinction between folliculitis and external otitis is more significant than a semantic one. Firstly, our perception is that the psychological impact of the diagnosis is perhaps significant to both the patient as well as the doctor. The diagnosis of a minor infection (or "boil") in the ear canal is probably less threatening to the patient than the diagnosis of external otitis. Secondly, diagnosis and treatment following an examination of a complaint of earache are almost always consequences of clinical judgment. There is no strong evidence for preferable treatment in external otitis. A plethora of empiric treatments is in use. Although instillation of drops containing antiseptics or antibiotic combinations with or without steroids is traditionally recommended, oral antibiotics are given in a considerable proportion of cases, without any evidence of their effectiveness, while being potentially harming.¹⁹⁻²⁰ Since treatment derives from clinical diagnosis, physicians will be probably more restrained about oral antibiotics, when their diagnosis is only "folliculitis", than in case of "external otitis".

Conclusion

1. Different factors are involved in the prevalence of external ear canal folliculitis, including poor hygiene, over crowding, bath in a contaminated water, hot weather, ear wax and lack of specialized care.
2. Since treatment is only possible upon clinical diagnosis, doctors will likely be more reserved about oral antibiotics if EECF can be diagnosed appropriately.

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