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External Ear Canal Folliculitis: A Frequently Under-Diagnosed Infectious Disease

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Abstract

Complaints of ear pain are very common in primary care practice. Diagnosis may be influenced by preconceived notions of prevalence that are based upon personal experience fund of medical knowledge.

External ear canal folliculitis (herein EECF), is a localized skin infection of the external ear canal involving hair follicles, typically caused by Staphylococcus aureus. It is our clinical experience an underappreciated diagnosis and distinct in character from otitis external.

Our research is a prospective observational prevalence trial, analyzing 90 visits of adults with earache as the presenting complaint, excluding patients that recently received antibiotics.

45.6% of included cases represented EECF. The results reveal a very simple finding: earache in adult patients derives most frequently from focal inflammation, what we call EECF.

Since treatment derives from clinical diagnosis, physicians will be probably more restrained about oral antibiotics if EECF can be appropriately diagnosed.

Keywords: Primary care; Ear canal folliculitis; Otoscopy

Introduction

Complaints of ear pain are very common in primary care practice. Diagnosis is classically based on taking a thorough medical history and physical exam. The clinician's diagnosis may be influenced, possibly negatively, by preconceived notions of prevalence that are in part based upon personal experience, and in part based up their fund of medical knowledge.

External ear canal folliculitis (herein EECF), which we define as a localized skin infection of the external ear canal involving one or more hair follicles, typically caused by Staphylococcus aureus. Patients have a tender area corresponding to the area of reported pain in the external canal [1]. It is our clinical experience an underappreciated diagnosis and distinct in character from otitis external. Currently, very little mention of EECF can be found in the professional literature using PubMed and other internet search engines [2]. That notwithstanding, there seems to be acknowledgement among patient-oriented websites that this condition bears clinical relevancy [3,4]. We submit that it is a relatively common problem in primary care practice, largely unappreciated by most clinicians.

Methods

Our research was a prospective observational prevalence trial. We documented encounters presenting to family physicians over the course of 12 months in three separate clinics within the same health maintenance organization (Clalit Health Services). We recorded 90 visits of adults with earache as the presenting complaint. During each visit, we recorded demographic details (age of patient, gender), the date (month of year), complaints, results in physical examination including otoscopy results, diagnosis (according to the family physician judgment).

Inclusion criteria

Adults (18 years and above) with ear pain as a major complaint during their visit to the family doctor were included in our trial. We included the cases with another major complaint only when it was related to the ear pain (eg. referred pain from sinusitis, tonsillitis, TMJ problems).

Exclusion criteria

Antibiotic treatment in the last 10 days.

Statistical methods

At the end of data collection, we calculated the proportion of the different diagnoses that were, according to the family physician's judgment, responsible for earache. The rate of "external ear canal folliculitis" diagnosis was calculated and compared with the rate of "non-external ear canal folliculitis". We also subdivided the different diagnoses under the title of "non-external ear canal folliculitis". The rate of incidence of "external ear canal folliculitis" diagnosis was calculated, including subdivision by sex and age- groups, by location in the ear canal (anterior vs. posterior etc.), and by the months of the year.

Results

We collected 90 instances of a chief complaint of ear pain that met our stated inclusion criteria. 45.6% of those cases represented EECF (Table 1). The greatest number of cases of EECF occurred in the month of January (19) (Table 2). We believe that EECF is not more common in January than in other months.

	Dx = EECF	Dx = NOT EECF
Incidence	45.6% (41)	53.3% (48
Average age in years (42.42)	40.81	44.26
Gender (Female)	58.5%	55.1%

Table 1: Statistical Summary

We think that this result is an artifact of data collection. The most common alternative diagnosis for the chief complain of ear pain that was not EECF was external otitis (n=20) and “no specific findings” (n=14) (Table 3). There were no differences in rates between left and right ear or between males and female subjects.

Discussion

The results of this non–sophisticated clinical trial reveal a very simple finding: earache in adult patients derives most frequently from focal inflammation, what we call EECF. The basis of performing this descriptive study was from our own clinical experience in primary care, in which we found that a frequent explanation of earache in adults was small focus of localized inflammation. This study presents the results of our attempt to quantify extent of our above-stated assertion.

Month	Number of Cases
January	21
February	5
March	2
April	2
May	2
June	2
July	2
August	3
September	3
October	2
November	6
December	4

Table 2: Distribution of Cases of EECF by Month

We feel certain that physicians dealing with earache complaints in adults detect the same findings on clinical examination that we do. We sense that physicians see an inflammatory focus and frame their diagnosis into an otherwise “respectable” familiar diagnosis. We suggest that during this elementary diagnostic procedure, physicians are almost inevitably influenced by representativeness bias [5,6]. 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" [7]. That notwithstanding, we feel that the distinction between folliculitis and external otitis is more significant than a semantic one.

External otitis	20
Herpes simplex	1
Lichen planus	1
Malignant otitis	1
Myringitis	2
No specific findings	14
Otitis media	4
Trauma	4
TOTAL	48

Table 3: Alternative Diagnosis if Not EECF

Firstly, we feel that the psychological impact of the diagnosis is probably significant to both the patient as well as the physician. The diagnosis of a "small focal 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 [8]. 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".

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