

Is oropharyngeal cancer being misdiagnosed as acute tonsillitis?

BACKGROUND

Oropharyngeal carcinoma (OPC) is an uncommon cancer of the head and neck region but with a growing incidence. Patients usually present after the fourth decade of life with chronic, persistent symptoms including non-tender cervical lymphadenopathy, chronic sore throat, ear pain, difficulty swallowing, pain on swallowing, and a change in voice quality. However, in our region, we have noticed that a significant number of patients with OPC have presented to their GPs and been diagnosed and treated as having acute tonsillitis. In this article, we review these cases, contrast the clinical features of OPC and acute tonsillitis, and alert other doctors to this issue.

METHOD

The NHS Grampian database of head and neck cancer referrals was reviewed between October 2008 and August 2013 to assess the number of patients diagnosed with OPC, the stage of the disease on presentation, and their referral pathway to otolaryngology. Patients' electronic referral letters were reviewed, which assessed for the number of tonsillitis diagnoses made shortly before referral. Patients' hospital medical notes were reviewed to assess the treatment provided and outcome.

RESULTS

Thirty-eight patients were diagnosed with OPC during a 60-month period. Eighteen (47%) of these patients had been treated for tonsillitis before referral to our otolaryngology service on an average of 1.9 occasions (range 1–5, mode 1). The average patient age was 61 years (range 50–81 years).

Of these patients with OPC, seven (39%) were referred to the otolaryngology department through the urgent cancer referral pathway for review by a head and neck cancer specialist, two patients (11%) were referred through an urgent pathway

for review within 2 weeks, and two patients (11%) were referred on a routine basis. Seven patients (39%) presented to the service as an emergency having been referred for further tonsillitis care or presented independently.

The average delay from the time of patients' presentation to their GP and final referral to otolaryngology was 34 days (range 0–84 days). All 18 patients (100%) in this series who were initially diagnosed with tonsillitis presented with advanced-stage disease (stage 3 or 4) (Table 1).

DISCUSSION

Head and neck cancers are an uncommon group of malignancies. OPC accounts for 28% of all head and neck cancers in England and Wales, including cancers in the tonsils, the tongue base, and the posterior pharyngeal wall.¹ The annual rate of OPC in the UK in 2006 was 11 per 100 000.² This has increased from the 7 per 100 000 in 1989. The rise is believed to be due to a greater incidence of human papilloma virus (HPV)-related cases.³ The 5-year survival rate is 52%.³

Smoking and alcohol consumption are independent risk factors for OPC. They should be considered when assessing older patients presenting with chronic sore throat and swallowing issues, particularly with neck masses and when patients notice a lesion or mass in the back of the throat. A mass from OPC will be ulcerated rather than erythematous and overwhelmingly unilateral (Figures 1 and 2).

The reason a diagnosis of tonsillitis was made in these 18 patients was because they presented with a sore throat with or without enlargement of the tonsils. However, the history of the symptoms of OPC contrast with those of acute tonsillitis (Table 2). Acute tonsillitis symptoms include fever, malaise, severe throat pain, and nausea. Clinical examination reveals bilaterally enlarged, erythematous tonsils covered with white exudate and tender cervical lymphadenopathy.⁴ Episodes have a duration

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Submitted: 23 February 2014; **Editor's response:** 1 March 2014; **final acceptance:** 19 March 2014.

©British Journal of General Practice

This is the full-length article (published online 29 Sep 2014) of an abridged version published in print. Cite this article as:

Br J Gen Pract 2014;

DOI: 10.3399/bjgp14X682537

Table 1. Details of patients with oropharyngeal carcinoma (OPC) treated for tonsillitis

Patient	Age	Tonsillitis treatments, n	OPC stage	Referral delay, days	Outcome
1	58	2	T3N2M0	63	Oropharyngectomy, chemoradiotherapy
2	55	1	T2N1M0	84	Chemoradiotherapy
3	78	2	T4N0M0	32	Radical radiotherapy
4	67	1	T4aN1M0	7	Glossectomy, radical chemoradiotherapy
5	53	1	T2N2bM0	7	Oropharyngectomy, selective neck dissection
6	62	1	T4N1M0	50	Radical radiotherapy
7	68	1	T3N0M0	7	Right glossectomy, radical radiotherapy
8	55	1	T2N1M0 T1N2BM0	12	Radical chemoradiotherapy
9	55	2	T3N0M0	54	Oropharyngectomy, radical chemoradiotherapy
10	58	1	T2N2M0	7	Oropharyngectomy, radical chemoradiotherapy
11	64	1	T4bN2cM0	6	Palliative radiotherapy
12	50	4	T3N0M0	76	Radical chemoradiotherapy
13	56	1	T4bN2cM0	9	Nil
14	71	1	T4bN0M0	0	Palliative radiotherapy
15	54	3	T4aN2bM0	31	Radical chemoradiotherapy
16	81	5	T4bN0M0	35	Palliative radiotherapy
17	57	3	T4bN2cM0	60	Radical chemoradiotherapy
18	52	3	T4bN1M0	71	Radical radiotherapy



Figure 1. Oropharyngeal carcinoma of the left tonsil.



Figure 2. Acute tonsillitis.

Table 2. The contrast in clinical features and epidemiology of tonsillitis and oropharyngeal carcinoma

Clinical feature	Acute tonsillitis	Oropharyngeal carcinoma
Duration of sore throat	<2 weeks	>3 weeks
Fever	Yes	No
Nature of lymphadenopathy	Tender, bilateral	Non-tender, unilateral
Nature of dysphagia or odynophagia	Temporary	Persistent
Nature of otalgia	Bilateral	Unilateral
Symptoms improve with antibiotics	Usually	No
Patient age, years	<30	>40
History of smoking	Possibly	Usually
Male:Female ratio	Equal	Mostly male

resolving nature of the symptoms in these patients were suggestive of malignancy.³

The findings in this study are significant as the incidence of OPC is rising due to HPV-related OPC and patients could present to primary care more often with a range of symptoms.^{8,9} In this series, patients' age and smoking history were reliable indicators of OPC when symptoms were taken into account. These should be considered by primary care practitioners, as should the age of the patient. Physical examination in primary care for oropharyngeal masses with non-tender cervical lymphadenopathy in this group is important too.

Based on the incidence of OPC, a GP will see a case every 5–7 years. Separating a common disease such as tonsillitis from a rare tumour such as OPC when the presenting symptom is the same is a challenge in primary care. The vast majority of patients with any sore throat symptom will not have OPC, and chronic sore throat is not the only symptom of head and neck cancer. Patients' age, smoking history, and the duration of symptoms should be considered when judging the likelihood of OPC against tonsillitis.

of 5–14 days and are successfully treated with antibiotics to which Gram-positive cocci are sensitive, such as penicillin V. Acute tonsillitis principally affects children and young adults and is very rare in adults aged >45 years, whereas OPC affects older adults. Older patients presenting with peritonsillar abscesses may require further assessment to detect OPC.^{5–7}

It is impossible to say if patients' prognoses were affected by delayed diagnosis. However, earlier-stage OPC has a better prognosis than advanced stage and the non-

Provenance

Freely submitted; not externally peer reviewed.

Competing interests

The authors have declared no competing interests.

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