Sinusitis and Atypical Facial Pain

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Citation

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Abstract

Headache and facial pain are two of the defining symptoms of Chronic Rhino-Sinusitis (CRS)1 , and Atypical Facial Pain (AFP). Therefore, patients with AFP may have occult CRS. We performed a prospective evaluation of AFP patients referred to the rhinology clinic from the Glasgow Dental Hospital to test this hypothesis. Data collection included demographics, history, nasal symptom score (NSS), symptom rank and locus and frequency of pain. In addition each patient underwent nasal endoscopy, imaging of the para-nasal sinuses and fulfilment of Rhino-Sinusitis Task Force (RSTF) criteria. Average NSS for the whole AFP group was 1.8. Six of the thirty five fulfilled RSTF criteria. Endoscopic findings were positive in 3 patients. Positive radiology was present in 6 patients. Only 2 of the 35 patients fulfilled a devised three tier diagnostic criterion (see later) for CRS diagnosis. Conclusion: CRS occurs in <6% of AFP patients, thus is less prevalent than in the general population. This study suggests that use of a standardised nasal symptom score along with use of Rhino-Sinusitis Task Force (RSTF) guidelines on AFP patients may help in appropriate referral to ORL.

INTRODUCTION

Atypical facial pain was first described by Temple Fay in 1927 as a vascular syndrome of dull, throbbing pain situated deep in the eye and malar region often referred toward the ear, lateral neck, and shoulders. Atypical facial pain (AFP) has been recently defined as persistent idiopathic facial pain by the revision of the Classification of the International Headache Society (IHS). However it remains a difficult diagnosis to make and is often a diagnosis of exclusion. Due to the lack of demonstrable findings, coupled with the high prevalence of anxiety and depression amongst the sufferers, it is postulated it may be of psychogenic origin

Headache and facial pain are common complaints amongst AFP sufferers. These are also two of the defining symptoms of Chronic Rhino-Sinusitis $(CRS)_1$, the criteria for which was defined by the Rhino-Sinusitis Task Force (RSTF) in 1996 and revised in 2002_2. Thus the possibility also exists that a proportion of AFP patients may in fact have undiagnosed CRS. We set out to explore this possibility, and to assess any predictive patterns for this.

METHODS

A prospective study of patients seen initially at the Oral Medicine Clinic at the Glasgow Dental Hospital, whom were subsequently referred to the Glasgow Royal Infirmary. The parents referred were those who were deemed not have chronic idiopathic facial pain or whose symptoms suggested sinus disease. Each had structured history, including nasal symptomatology and recording of locus and frequency pain, nasal symptom scoring, nasal endoscopy and CT.

We recorded the following variables:

- Patient demographics
- Frequency and locus of pain
- Mean nasal symptom score
- Prior ENT Consult & Sinus Investigation
- Endoscopy and CT findings
- RSTF criteria fulfilment

RESULTS

DEMOGRAPHICS

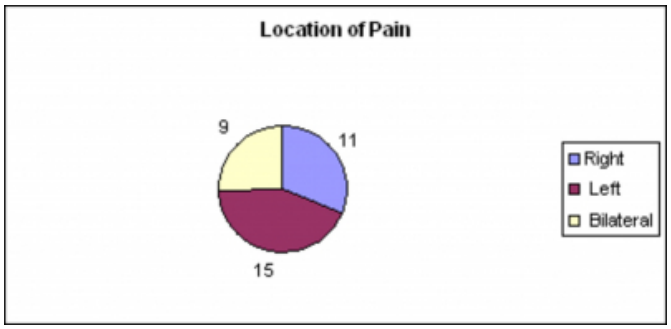
There were 13 male and 22 female, age range 29 to 68 years (mean 49.7 years). Male to female ratio not statistically significant by chi square analysis.

LOCUS AND FREQUENCY OF PAIN

Location of pain was measured, as right, left or bilateral. It was found that 11 had right-sided symptoms, 15 left and 9 bilateral (figure I).

Figure 1

Figure 1: Location of pain



NASAL SYMPTOM SCORE

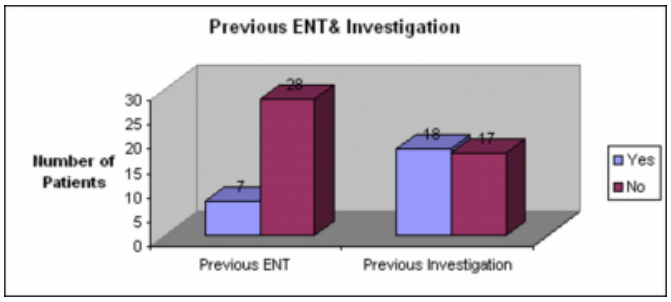
A Nasal Symptom Score (NSS) was used to grade the severity of nasal symptoms.

Symptom category included obstruction, rhinorrhoea, congestion, hyposmia and sneezing. These were graded as being not present, mild, moderate and severe. They were scored as 0, 1, 2 or 3, maximum score being 15.

Average NSS of all the AFP group was 1.8. 46% of patients scored zero. Eighty six per cent scored less than five, 94% scored less than 7 and all patients scored less than 10 (figure II).

Figure 2

Figure 2



PRIOR ENT CONSULTATION & SINUS INVESTIGATION

Only 7 of the 35 patients had prior consultation at an ENT department. Interestingly, however, 18 had undergone prior sinus investigation in the form of either a plain sinus X-ray or CT scan (figure II). This had been via their GP or the casualty department.

RSTF DIAGNOSIS

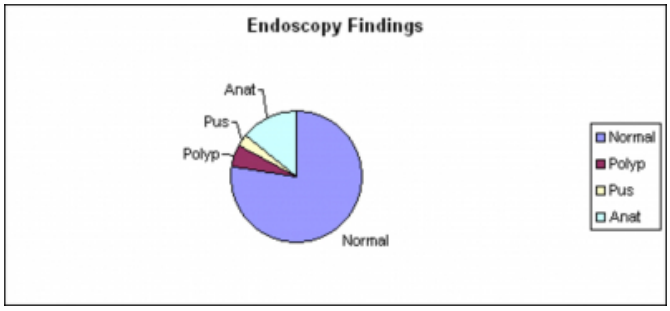
Over all 6 of the 35 patients (17%) met RSTF diagnostic criteria on history; the mean NSS for these patients was 6.17.

ENDOSCOPIC FINDINGS

The majority (77%) had normal endoscopic findings (figure III). Of those with positive findings most had anatomical defects such a septal deviation or a spur. On endoscopy of the 3 who were positive for signs of CRS, the mean NSS was 5.

Figure 3

Figure 3



RADIOLOGY

There was a 20% failure to attend rate. Thus we had results only on 28 scans (80%). Twenty two of the twenty eight had no evidence of sinus disease and 6 had positive radiological findings (mean NSS 6.17). Two of the 6 patients with positive scans had no nasal symptoms and their NSS was 0. The other 4 patients with symptoms had a mean NSS of 4.5.

DISCUSSION

Atypical facial pain is a poorly understood condition, which causes diagnostic difficulty to doctors and allied professionals. This is due to its lack of specific symptomatology or examination findings. Atypical facial pain (AFP) was first described by Temple Fay in 1927 as a vascular syndrome of dull, throbbing pain situated deep to the eye and malar region, sometimes referred to the ear, lateral neck, and shoulders[3]. Despite suggestions that all ‘unexplained' facial pains be termed Atypical Facial Pain, including neuropathic pain and Chronic Regional Pain Syndrome (CRPS), AFP has recently defined by the revision of the Classification of the International Headache Society (IHS)[4]. They have defined it as persistent idiopathic facial pain that does not have the characteristics of cranial neuralgias and is not attributable to another disorder. The pain is confined at onset to a limited area on one side of the face, often in the nasolabial fold or side of the chin and may spread to the upper or lower jaw/ face or neck. The lack of demonstrable findings coupled with the high prevalence of anxiety and depression among this patient group has also led to suggestions that it may in fact be psychogenic in origin .

There are no specific tests that can confirm the diagnosis of atypical facial pain. Atypical facial pain is a diagnosis of exclusion often after lengthy investigation. The possibility that a significant proportion of these patients may be harbouring occult sinus disease may also often be raised by the investigating clinician. This can lead not only to unwarranted x-ray and CT imaging but also undue concern for the patient.

Atypical facial pain is more common in women aged 30 to 50 years, reflecting the larger attendance of women at facial pain clinics[5]. This was shown by our study population, which was predominantly women, mean age AFP population 49.7(no statistical significance between men and women). AFP has been reported to affect all areas of the face, the most common being the maxillary region, however no laterality of symptoms is usually found[6]. Our data showed left malar pain to be most commonly reported, with no set pattern to the frequency of symptoms.

Guidelines for diagnosing Chronic Rhino-Sinusitis (CRS) were outlined by the Rhino-Sinusitis Task Force (RSTF). These were endorsed by the American Academy of Otolaryngology-Head and Neck Surgery (AAO-HNS) in 1996, and revised again in 2002(table 1)[2]. RSTF criteria fulfilment was found in <6% of patients in this study, however this is not surprising since studies have shown the prevalence of CRS in the general population to be anywhere between 2-14 %. There was a poor correlation between RSTF criteria fulfilment and eventual diagnosis of CRS, since only 2 of the 35 patients we saw had eventual diagnosis of CRS (6%).

Figure 4

Table 1: The RSTF criteria. Diagnosis of CRS is made with 2 major factors or 1 major and 2 minor factors, or in the presence of positive endoscopic findings.

Major factors	Minor Factors
Facial pain/pressure	Headache
Nasal obstruction/blockage	Fever
Nasal discharge/purulence/	Halitosis
Discoloured post nasal drip	Dental pain
Hyposmia-anosmia	Cough
Purulence in nasal cavity	Ear pain/fullness
Fever	
Signs	
Oedema	
Pus	
Polyps	

A targeted history and an accurate examination are crucial to correctly diagnose atypical facial pain [4,7]. We found good correlation with a high NSS and endoscopic positivity. The NSS used in the study was devised and previously used by the senior author, and was used for ease of clinical applicability. It may be that a more structured nasal symptom score such as the SNOT (patient based sinusitis rating) may be used for appropriate referral to the ENT department.

In our study population over 50% had prior sinus investigation. This had little influence on the patient's initial management. Imaging is not disease specific in sinus disorders; as many as 30% of asymptomatic patients have been reported to have incidental findings such as mucosal thickening on CT[8]. Imaging of the nose and para-nasal sinuses is more appropriate in an ENT setting coupled with structured history and nasoendoscopy. This was reflected in the higher NSS in patients with endoscopically positive findings and positive CT scans.

CONCLUSION

We propose a sequential diagnostic filter for screening those with atypical facial pain, who may in fact be harbouring

chronic rhino-sinusitis. This commences with a structured history and nasal symptom score, then proceeding to rigid nasal endoscopy and finally radiology. Occult sinus disease is not prevalent in AFP patients because <6% met RSTF criteria. AFP physicians should use a standardised NSS as filter for appropriate referral to ORL.

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