The prevalence of humeral epicondylitis: a survey in general practice

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SUMMARY. The characteristics of all patients with humeral epicondylitis who presented over a two-year period in a group practice were examined to clarify the epidemiological features of this condition. In all 77 patients were seen. There was no observed difference in incidence between the sexes, lateral epicondylitis being more common than medial in both sexes. Medial epicondylitis is more common in the community than is generally recognized. Epicondylitis is a relapsing condition with a strong bias towards the 35–54 years age group. Analysis revealed no relationship between incidence and socioeconomic class.

Introduction

HUMERAL epicondylitis is a relatively common and easily recognized condition in general practice. Its pseudonyms of tennis elbow, dating back to 1882,[1] and golfer's elbow (lateral and medial respectively) are easily remembered but are misleading as relatively few cases are caused by sport. Diagnosis is straightforward and is based on a history of pain at the elbow and tenderness at or close to the humeral epicondyle.[2]

The exact pathology of the condition remains obscure although several lesions have been described at operation. Certainly the condition is one of damage at the insertion of the flexor or extensor muscles of the hand and wrist into the humeral epicondyle. Symptoms may be produced by sudden violence to, by repeated usage of or by chronic strain to these tendons. In many cases trauma at work has been identified as the cause of the symptoms.[3]

This study attempts to establish the epidemiological features of the condition by examining all cases presenting to a group general practice over a period of two years.

Method

All patients presenting for the first time with humeral epicondylitis during a two-year period were studied in a group practice with a list size of around 8500. Details of sex, age, type of lesion and right- or left-handedness were recorded at presentation. Socioeconomic class was determined from the patient's occupation[4] and compared with the social class distribution of the local population. Patients were asked how long they had been having symptoms of epicondylitis. Previous history of rheumatic disease was noted and for women the number of children under five years of age was recorded. Treatment was left to the judgement of the doctor consulted. Some patients were treated with analgesics initially but the majority received local steroid injection, particularly when not responding to conservative treatment. During the study period the number of recurrences of symptoms after a symptom-free period were recorded and any changes in the condition noted. The practice records were studied for any reference to symptoms not already reported to the investigator at the end of the two-year period. The results were analysed using the chi-square test.

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Results

A total of 77 new patients presented with humeral epicondylitis over the two-year period. This corresponds to an incidence of 4.23 per 1000 patients compared with an incidence of 3 per 1000 for the UK from the 1972 morbidity statistics for the category which includes epicondylitis ($\chi_1^2 = 0.55$, no significant difference).[5]

Similar numbers of men and women presented with epicondylitis (Table 1). The mean age of patients was 45 years (range 14–78 years). The majority of patients (54, 70%) were in the 35–54 years age group and significantly fewer (1, 1.4%) were aged under 24 years. The figures for socioeconomic class of the local population are not strictly comparable as they relate to the occupations of heads of households. Using them as a general guide, however, there was no significant difference between the distribution of social class of the local population and of patients with epicondylitis (Table 2).

Table 2. Comparison between percentage social class distribution of local population and patients with epicondylitis.

Social class	Patients with epicondylitis ($n = 66$[a])	Local population
1 and 2	*7.6*	*11.6*
3N	*16.7*	*7.4*
3M	*47.0*	*54.0*
4 and 5	*28.8*	*26.9*

[a] 11 cases were unclassified

Table 3. Breakdown of cases of humeral epicondylitis by handedness.

	Right-handed patients	Left-handed patients	Total
Right epicondylitis[a]	44	2	46
Left epicondylitis[a]	18	4	22
All cases	68[b]	7[b]	75[c]

[a] Data for lateral and medial cases pooled. [b] Include bilateral and lateral and medial cases. [c] One ambidextrous, one case not recorded.

Table 1. Breakdown of cases of humeral epicondylitis by type and sex (percentages in parentheses).

	All cases	Right lateral	Left lateral	Right medial	Left medial	Bilateral	Lateral and medial
Male	37	16	9	5	2	4	1
Female	40	24	11	2	1	2	0
All	77 *(100)*	40 *(52)*	20 *(26)*	7 *(9)*	3 *(4)*	6 *(8)*	1 *(1)*

Table 4. Number of cases of epicondylitis recurring during follow-up period.

Number of recurrences	Follow-up period		
	6 months	12 months	18 months
None	42	26	16
One	21	14	9
Two	3	7	6
Three or more	0	3	2
Total	66	50	33

Lateral epicondylitis was six times more common than medial epicondylitis and only one case presented with combined lateral and medial epicondylitis (Table 1). Right-sided epicondylitis was twice as common as left-sided epicondylitis (Table 1). Table 3 shows the relationship between right- and left-handedness and the side on which the epicondylitis occurred. There was no significant difference between the proportion of left-handed people in the study and in the population (approximately 10%). The figures indicate a tendency for right epicondylitis to be associated with right-handedness and left epicondylitis with left-handedness but the figures were too small for statistical comparison.

The mean time period that patients had suffered symptoms of epicondylitis before presentation to the doctor was significantly shorter for the 57 cases of lateral epicondylitis (mean 41.1 days) than for the nine cases of medial epicondylitis (mean 96.5 days) ($Z = -2.09$, $P<0.05$). There was no such difference between right- and left-sided varieties of the disorder.

Because of the limited time available for the study not all cases could be followed up for the full 18 months. Over half the cases followed up for 18 months suffered a recurrence (Table 4) and over a third of cases followed up for six months suffered one or more recurrences. Two patients followed up for 18 months suffered three or more recurrences.

Other factors examined during the study were the presence or absence of previous rheumatic or musculoskeletal problems and (for women) the presence of young children in the family. No evidence of any association with these factors was noted.

Discussion

Humeral epicondylitis is a painful condition which in this study affected men and women in equal proportions, occuring most often on the right side and usually as lateral epicondylitis.

The predominance of lateral epicondylitis would seem to be confirmed by the preponderance of other studies relating to this condition rather than medial epicondylitis. It is perhaps surprising then that as many as 13% of patients in this study presented with medial epicondylitis. Goldie also noted a proportion of 11.4% of medial epicondylitis sufferers.[2] The low proportions of medial epicondylitis may reflect the relative mildness of the condition in that most cases are not referred to specialist clinics but resolve within the general practice setting. Such a view is supported by the long period of symptoms before the patients consulted medical opinion — more than twice as long on average for medial than for lateral epicondylitis.

The evidence from this study also suggests that, as noted previously,[2,6] epicondylitis is to some extent associated with the dominant hand.

The equal proportions of male and female patients affected is similar to that found in previous studies of epicondylitis,[6,7] although others have noted a slight excess of women[8,9] or of men.[2,10,11] As the majority of these studies were of small numbers or highly selected groups presenting at clinics the evidence favours the conclusion that there is no major difference between the sexes in their susceptibility to humeral epicondylitis.

The age incidence figures show clearly the excess of cases of epicondylitis in the 35–54 years age group compared with the practice population and the mean age of incidence was 45 years — figures which are similar to those of previous studies.[3,6,7,12,13] The reason for the peak incidence in this mid-life group is a matter for speculation. There may be changes in the tendons which predispose this group to injury, although Goldie [2] found no evidence of degenerative changes in the elbows of a 20–50 years age group examined at postmortem. Furthermore, the incidence of epicondylitis might be expected to continue to increase into the older age groups as degenerative changes continue. It could be postulated that in mid-life there is some deterioration in elasticity of the tendons at a time when levels of activity appropriate to the younger age groups are maintained. It would be of considerable interest to compare similar aspects of other soft tissue injuries, such as Achilles tendon rupture.

Epicondylitis has been noted in the past to be related to manual work.[3] Although individual patients commented on an association between their work and their symptoms, this study failed to demonstrate an excess of patients in manual occupations. This may be because the types of trauma causing epicondylitis are a common feature of everyday life as well as the work environment.

Finally, this study demonstrates that humeral epicondylitis is a relapsing condition. The results presented here from general practice confirm the findings of others in rheumatology clinics.[6,14] Previous workers who considered epicondylitis as a non-recurring condition[8,12] must surely have been misled by the nature of the selected population seen in their clinics.

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