



Trends in elective hand surgery referrals from primary care

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ABSTRACT

INTRODUCTION Two prospective audits of activity in a hand unit were performed, in 1989–1990 and during 2000–2001, to identify trends in elective hand surgery referrals from primary care.

PATIENTS AND METHODS Two 6-month prospective audits of activity in a hand unit were performed, including elective referrals from primary care. Data were collected on all in-district referrals with elective hand disorders. Cross boundary flow was identified to permit assessment of changes in referrals by diagnosis over a decade.

RESULTS There was a 36% increase in health authority referrals for elective hand surgery over the decade (from 289 to 392 per 100,000 of population per year). The number of elective hand surgery operations rose 34% over the decade (from 149 to 199 operations per 100,000 of population per year). Carpal tunnel syndrome (the commonest reason for elective referral) almost doubled (from 59.7 to 112 per 100,000 of population per year). Referrals for ganglion, the second most common elective referral, rose modestly. Referrals for osteoarthritis (commonly basal thumb arthritis) almost trebled over the decade to become the fourth commonest condition referred to the hand unit (from 12.7 to 34 per 100,000 of population per year). Referrals for Dupuytren's disease, trigger finger and rheumatoid arthritis were relatively unchanged over the decade. Congenital hand referrals are uncommon but doubled during the decade.

CONCLUSIONS Hand surgery referrals rose by 36% over the decade. Analysis of the commoner conditions referred reveal a high prevalence within the community with the possibility of increased referrals in years to come.

KEYWORDS

Elective referrals – Hand surgery – Trends

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Up until 1990, little information existed in the medical literature on the demand and resources required for hand surgery in the UK.¹ The information from the initial audit was needed for estimating the resources required to meet hand surgery needs for a given population. The second audit, 10 years later, provided updated resource estimates and identified trends in provision of care.

The two prospective audits were performed a decade apart (1989–1990 and 2000–2001). The Pulvertaft Hand Centre has provided a unique setting in which to collect this baseline information. The Pulvertaft Hand Centre is based at the Derbyshire Royal Infirmary, which is a busy district general hospital serving the population of South Derbyshire Health Authority (SDHA). In most hospitals, a number of specialities including accident and emergency, orthopaedic and plastic surgery care for hand disorders. In Derby, all

significant hand disorders are treated in a single hand unit. South Derbyshire has a mix of rural and urban populations providing industrial, agricultural and non-manual employment. The distribution matches the national census proportions. The audits were undertaken to determine the incidence of various index conditions per 100,000 of population per year. This study investigates the trend over 10 years of common elective conditions treated in a hand unit.

Patients and Methods

Both audits (in 1990 and 2000) included all patients resident in Southern Derbyshire Health Authority, presenting for the first time to the Pulvertaft Hand Centre over a 6-month period with either elective or traumatic hand disorders. The population of Southern Derbyshire Health Authority was

known, but an accurate assessment of the cross boundary flow was essential to identify the incidence of referral for specific elective hand surgery conditions. Cross boundary flow was estimated from the regional patient information system. The 10 most frequent hand surgery diagnoses and treatments were extracted for the year 2000. Of Southern Derbyshire Health Authority elective patients, 12.5% were treated in hospitals other than the Pulvertaft Hand Centre, outside the district boundaries. The true elective population from which hand disorders were referred was, therefore, 87.5% of the population of the Southern Derbyshire Health Authority.

The diagnoses were coded using International Coding for diseases Version 9 (ICD 9) extended further by the unit. The records of the 10 most frequently occurring elective hand conditions in Southern Derbyshire Health Authority patients were extracted from the audit and compared with the data from the previous audit performed 10 years ago.

Results

Population

In 1989–1990, cross boundary flow was found to be 14.1% with patients being treated in neighbouring hospitals. In 2000, cross boundary flow was identified at 12.5% revealing a referral population to the unit of 511,381. This figure was then used to determine the incidence of elective hand conditions. The population of Southern Derbyshire Health Authority has risen slightly over the decade from 527,000 in 1987 to 584,000 in the year 2000.

Elective referrals

Table 1 ranks the 10 most common elective hand conditions referred to the hand unit per 100,000 of population per year.

Carpal tunnel syndrome is the commonest disorder referred followed by ganglia. Several hundred of these cases are referred to the hand unit each year. Table 1 also compares the incidence of the 10 most common elective hand conditions in the current study to the previous assessment in 1989–1990. The rate of referral for some conditions such as rheumatoid arthritis, trigger finger or thumb and Dupuytren's disease is unchanged over the decade. The frequency of referral has risen in every other diagnostic category. Three groups are being referred a lot more frequently. Almost twice as many congenital hand conditions are being seen in the unit over the decade. The numbers however remain small. Referrals for osteoarthritis were uncommon in 1989–1990 and they have almost tripled over the decade. Many of these cases are referred with symptomatic basal thumb arthritis. Carpal tunnel syndrome was the commonest condition referred to the hand unit in 1989–1990 at 59.7 cases per 100,000 of population per year. The referrals with carpal tunnel syndrome have almost doubled over the decade to 112 per 100,000 of population per year.

Table 2 demonstrates the mean age for the diagnostic groups in the two audits. There has been no significant alteration in age over the decade. This is against a background of a slowly ageing population.²

Discussion

The 36% increased attendance over the decade may arise for a variety of reasons. General practitioners are more aware of the available treatments. Patient threshold for registering unhappiness with their hand function may well have lowered over the decade. The public is in general more aware of medical matters than

Table 1 Changes in the ten most common elective hand conditions

	Per 100,000 population per year		Change (%)
	1989–1990	2000	
Carpal tunnel syndrome	59.7	112	+88
Ganglion (wrist and finger)	43.9	55	+25
Pains, sprains, DeQuervain's, tenosynovitis	25.6	36	+41
Osteoarthritis	12.7	34	+268
Dupuytren's disease	32.5	33	+1.5
Trigger finger or thumb	24.2	28	+16
Swellings	14.6	24	+64
Ulnar neuritis	11.9	19	+60
Rheumatoid arthritis	8.8	8	-9
Congenital hand conditions	3.5	6	+71

Table 2 Mean age (years) for each diagnostic group in 1990 and 2000

	1990			2000		
	Mean	SD	<i>n</i>	Mean	SD	<i>n</i>
Carpal tunnel syndrome	52.2	16.5	142	52.7	15.1	303
Ganglion (wrist and finger)	37.7	18.0	100	40.8	18.6	145
Dupuytren's disease	62.4	12.0	72	61.3	12.8	89
Trigger finger or thumb	52.8	20.9	53	54.4	15.2	76
Pains, sprains, DeQuervain's, tenosynovitis	40.7	14.8	55	41.9	12.8	94
Swellings	39.2	23.3	20	46.7	20.1	67
Osteoarthritis	55.9	21.9	27	57.4	12.2	90
Ulnar neuritis	45.7	14.1	27	55.1	13.3	50
Rheumatoid arthritis	51.9	21.3	20	61.2	19.2	20
Congenital hand conditions	9.3	14.5	15	10.2	11.6	12

they were in 1990, not only in terms of the disease processes but also in terms of the potential treatments available. It is likely that many patients now access the internet for information and advice on upper limb complaints. Workers with hand/arm problems may be encouraged to seek assessment to validate a claim for compensation. Three frequent hand disorders justify further comment:

Osteoarthritis

Many of the referrals in this category relate to basal thumb arthritis. The condition is common in the community with one-third of females over 50 years exhibiting some radiological changes in the first carpometacarpal joint.⁵ A painful basal thumb joint causes disability by limiting power of pinch and grip. This trend of increasing referral is likely to continue and may represent unmet need in some areas.

Ganglion

Patients with a ganglion were the second most common elective condition. These have risen modestly over the decade from 44 to 55 per 100,000 of the population per year. This increase in referral has occurred at a time when hand surgeons have become more aware of the complications of ganglion surgery and more appreciative of the high spontaneous resolution rate. Dias and Buch⁴ reviewed the effect of three treatment modalities for volar ganglion at 5 years. Recurrence rate after ganglion excision was 42%, and was 47% after aspiration of a ganglion. During the 5 years, 20 of the 39 ganglia treated simply with re-assurance resolved spontaneously (51%). A policy of re-assurance with or without aspiration as additional re-assurance for those concerned about malignancy⁵ would seem to be the preferred treatment in the light of these findings. An

improved dialogue between primary care physicians and hand surgeons seems justified in this area.⁶

Carpal tunnel syndrome

The number of patients with this condition has almost doubled over the decade, with a current referral rate of 112 per 100,000 (0.1%) of population per year. However, prevalence of this condition in the community is known to be high. De Krom *et al.*⁷ surveyed 1000 adults in a community in The Netherlands identifying histories compatible with carpal tunnel syndrome. The diagnosis was then confirmed by nerve conduction studies. Of adult females, 5.4% were known to have carpal tunnel syndrome with an additional 5.8% of females in whom the condition had not previously been detected. A similar study was performed by Ferry *et al.*⁸ in the UK and revealed a prevalence estimate of between 7–16% in the adult community. The mean carpal tunnel decompression rate in the State of Maine in the US in the mid-1990s was 144 per 100,000 of population per year with one centre exceeding 280 per 100,000 of population per year.⁹ The rate for carpal tunnel decompression in Trent Regional Health Authority in the mid-1990s was half the mean rate of the State of Maine.¹⁰ Against this background of a high prevalence, a further rise in referrals over the next decade is probable. The use of a referral protocol in primary care, which incorporates conservative treatments known to be worthwhile for mild-to-moderate cases is desirable.^{11,12}

Conclusions

A 36% increase in elective referrals for hand surgery over a decade is analysed to reveal the relative changes between disorders. Future referral rates for osteoarthritis and carpal

tunnel syndrome are likely to rise because of their high prevalence in the community. The data in Table 2 reveal little change in age of presentation in 1990 compared with 2000 for these two conditions. This would suggest the prevalence in the community has not altered over the decade, rather a diminished threshold for patients or general practitioners requesting hospital treatment. Closer links between hospital and primary care with a shared view of referral criteria would help to manage demand for treatment of some of these conditions (carpal tunnel syndrome, ganglion and basal thumb arthritis).

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