Management of tennis elbow: a survey of UK clinical practice

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Abstract

Background: Tennis elbow is a common condition in the UK but there are no guidelines on how best to manage the condition. The purpose of the present study was to establish the current UK practice in managing patients with chronic tennis elbow.

Methods: A cross-sectional online survey of UK surgeons and therapists was conducted in June 2017.

Results: In total, 275 responses were received, the majority from consultant surgeons and experienced physiotherapists. In total, 81% recommended exercise-based physiotherapy as the first-line intervention. Second-line treatments varied widely, with corticosteroid injections being the most popular (27%), followed by shockwave therapy, platelet-rich plasma injection, surgery, acupuncture and a wait-and-see policy.

Conclusions: There is wide variability of treatments offered when physiotherapy fails patients with tennis elbow. The majority of second-line interventions lack evidence to support their use and, in the case of corticosteroid injections, may even be harmful in the long term. There is a clear need for national guidance based on best evidence to aid clinicians in their treatment approach.

Keywords

elbow, injection, physiotherapy, surgery, tennis

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Introduction

Tennis elbow is a common condition of middle age, causing pain and affecting functional ability, including work.^{1–3} The UK incidence has been reported as 2.45 per 1000 person years.³ Although, in many cases, the condition is self-limiting, some individuals suffer persistent symptoms.⁴

There is currently no established consensus in the UK regarding the most appropriate treatment method. The UK National Institute of Health and Care Excellence published a Clinical Knowledge Summary, last updated in April 2015,⁵ recommending initial management of activity modification and oral nonsteroidal anti-inflammatory (NSAID) medication. For more persistent symptoms, corticosteroid injection, physiotherapy and orthotics were advised before referral to an orthopaedic/rheumatology specialist if disability remained affected after 6 months to 12 months. The recommendation of corticosteroid injection is a concern because randomized clinical trial evidence suggests

that, although such injections offer good short-term pain relief, in the medium and long term, they have the effect of prolonging pain and disability compared to no treatment or NSAIDs.^{6,7} A recent cost effectiveness analysis from Australia concluded that corticosteroid injections were not a cost-effective treatment for tennis elbow and that physiotherapy should be the mainstay of conservative treatment.⁸ Corticosteroid injection had the additional effect of negating the positive benefit of physiotherapy intervention and so should be avoided.⁸

The same group proposed a treatment algorithm recommending early physiotherapy with or without

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pharmacological therapy for all but the lowest risk groups of patients (with mild symptoms, no co-existing pathologies and no significant occupational factors).⁹ If symptoms were 'not much better' after 8 weeks to 12 weeks, then imaging is proposed to confirm diagnosis/exclude other pathology before specialist referral for further intervention. There are no recommendations for which specific further interventions should be used, although it is suggested that prolotherapy, nitric oxide patches and surgery might be considered.⁹

In the UK, our group conducted a survey of practice in 2011 to assess the use of injection therapies for tennis elbow by specialist clinicians.¹⁰ At that time, 48% of respondents were using corticosteroid injections as a first-line intervention and only 11% were not using them at all. Platelet-rich plasma (PRP) injections were identified as an emerging treatment used by 16% of respondents, although supportive research evidence from randomized controlled trials was limited. We highlighted concerns regarding the high use of corticosteroid injections despite evidence at the time of deleterious long-term effects and concluded that guidelines should be developed by the specialist societies to guide clinicians towards the most evidence-based effective treatments.

The purpose of the present study was to assess the current UK practice in managing patients with tennis elbow with emphasis given to patients with chronic symptoms defined as lasting over 6 months (i.e. those that had failed to resolve naturally).

Materials and methods

A short questionnaire was developed containing 17 questions with multiple choice or free-text response options (see Appendix 1). This was reviewed by Derby Teaching Hospitals Research & Development Department and was approved for use without the need for National Research Ethics Service application because it was regarded as a service evaluation without any request for personally identifiable information. The questionnaire was hosted online by Google Forms and a link to the survey was advertised via Twitter, the UK Chartered Society of Physiotherapy interactive online message-board and relevant professional contacts of the authors. In addition, the British Society for Surgery of the Hand (BSSH) independently reviewed and approved the survey for distribution to their members via e-mail. The survey opened on 16 June 2017 and remained active for 1 month.

Results

In total, 293 responses were received; however, 18 respondents did not work in the UK and were therefore

excluded, leaving 275 responses. Respondents comprised 142 physiotherapists, 123 surgeons, two sport and exercise medicine (SEM) doctors, two occupational therapists, two sports therapists, one general practitioner, one surgical care practitioner and one osteopath. Of the surgeons and SEM doctors, 114 were consultant grade, seven were registrar level and five were fellowship level. Of the physiotherapists, 126 were senior to highly specialist grades (bands 6 to 8), with eight being junior grade (band 5) and the remainder either self-employed or not stated. There were 167 (61%) of respondents who were members of relevant specialist societies (59 British Elbow and Shoulder Society, 101 BSSH, four European Society of Shoulder & Elbow Rehabilitation, two Association Of Chartered Physiotherapists in Sports and Exercise Medicine, one British Association of Sport and Exercise Medicine). Of the respondents, 122 worked solely in the UK National Health Service, 34 solely in private practice and 119 in both. Responses were received from a wide geographical area, as shown in Fig. 1.

The preferred first-line treatment for chronic tennis elbow of greater than 6 months in duration is shown in Fig. 2. Overall, 81% of respondents advised exercise-based physiotherapy and 9% advised corticosteroid injection. The preferred second-line option is shown in Fig. 3. The favoured option (27%) was corticosteroid injection, with approximately 10% each choosing shockwave therapy, PRP injection, surgery, acupuncture or a wait-and-see approach.

Of the respondents, 21% stated that they would use corticosteroid injections for the majority of patients with tennis elbow, although there was variability in the number of injections advised (Fig. 4), and 40% would not use them.

Overall, 14% of respondents currently used PRP injections, although only 49% of those considered them to be effective (49% unsure and 2% not effective).

Additional treatments offered were Kinesio Tape (Kinesio Holding Corporation, Albuquerque, NM, USA)/strapping (3%), soft tissue massage/manual therapy (3%), lithotripsy (1%) and neural mobilizations (1%), in addition to the following used by isolated individuals (0.36%): tenease injection, barbotage, Reiki, Topaz coblation, NSAIDs, therapeutic ultrasound and lidocaine patches.

Of the respondents, 48% would recommend the use of orthotic devices such as counterforce braces (tennis elbow clasps).

Overall, 96% felt that physiotherapy was effective in more acute cases where patients had symptoms lasting less than 6 months and 91% considered that it was effective in chronic cases.

Figure 1. Geographical spread of survey respondents (reproduced from Ordnance Survey map data by permission of Ordnance Survey © Crown copyright 2017).

Out of the 123 surgeons, two SEM doctors and the surgical care practitioner who comprised the ultimate decision-makers regarding surgery, the main reason (76%) for justifying surgery was failed conservative care. Of those who specified a timescale, 59% would only operate if symptoms were of at least 12 months in

duration, 9% would consider operating at 3 months, 25% would consider operating at 6 months and 6% would consider operating at 9 months. Interestingly, 11% would never recommend surgery. Other indications for surgery were a common extensor tendon tear on magnetic resonance imaging (6%), inability to work or play sport

Figure 2. Choice of preferred first-line treatment for chronic tennis elbow (>6 months).

Figure 3. Choice of preferred second-line treatment for chronic tennis elbow (> 6 months).

(3%), patient request (2%), inflammatory arthritis with enthesopathy (1%) and neural symptoms (1%).

Discussion

The present survey represents the largest study of UK practice in the management of patients with chronic tennis elbow. The majority first-line treatment was

exercise-based physiotherapy, which is supported by research evidence and shown to be cost effective.^{6-9,11,12} A concerning finding was that 9% would use corticosteroid injections as a primary intervention, 27% as a secondary intervention and 21% for the majority of patients. Given the strong evidence indicating that such injections are not cost-effective, and that they negate the beneficial effects of physiotherapy

Figure 4. Number of corticosteroid injections recommended.

intervention and prolong symptoms compared to a no treatment approach, there appears to be a need for guidelines to educate clinicians against their use.^{6–8,10} Only 40% would not use them at all. Subsequent to our previous survey of specialist practice, there has been a decline, if survey populations can be considered similar, in corticosteroid use, when 52% of respondents used them for the majority of their patients.¹⁰

There was a wide range of responses given for second line intervention, including corticosteroid injection, shockwave therapy, PRP injection, surgery, acupuncture or a wait-and-see approach. There is limited evidence to support the use of shockwave therapy for tennis elbow.^{13–16} There is evidence that PRP injection may be superior to corticosteroid injection; however, there is no evidence in the long term that it is superior to control injections of autologous blood or saline.^{17–19} The evidence is limited, however, by heterogeneity in methodology and a high loss to follow-up for any long-term outcome comparison. There is a lack of evidence to support or refute surgery²⁰ and limited evidence to justify the use of acupuncture, apart from giving short-term pain relief for up to 8 weeks.^{21–23} A wait-and-see approach has been shown to be superior in the long-term to corticosteroid injections.^{6,24}

The strengths of the present study include responses from a broad range of clinicians, representing the wide range of providers of care in the UK for patients with tennis elbow. Responses were received from a wide geographical area, with the majority being of a high level of experience/seniority, including a large proportion comprising members of specialist societies. It is acknowledged, however, that the number of responses

represents a very small cross-section of the total number of clinicians in the UK who are treating patients with tennis elbow. With many respondents accessing the survey via Twitter, this may also bias the findings in favour of clinicians whom are more progressive and informed regarding current research evidence.

Conclusions

The majority of clinicians advocate exercise-based physiotherapy as the first-line intervention for chronic tennis elbow. Corticosteroid injection use may be in decline but it is still widely used, which is a concern given the evidence of poor cost-effectiveness and potential for long-term harm. When physiotherapy fails, there is wide variability in recommendations for further treatment, with many of the interventions that are advised lacking research evidence for efficacy. Surgery may be advised after 6 months to 12 months of failed conservative care but, interestingly, 11% of surgeons would never operate on patients with this diagnosis. There is still a need for evidence-based UK guidelines on the management of tennis elbow.

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Ethical review and patient consent

The study protocol was reviewed by Derby Teaching Hospitals NHS Foundation Trust Research & Development Department and registered with the Trust's Audit Department: Reference SB-Tra-2017/18-670.

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