

How do we manage thumb carpometacarpal osteoarthritis? A survey of clinical practice trends for hand therapists in the Spain

Keywords: thumb • carpometacarpal joint • osteoarthritis • survey

Introduction

Thumb basilar arthritis is a common and often debilitating condition seen in more than half of women aged over 71 years. It manifests as pain localized to the base of the thumb and patients often have weakness that may affect their ability to work, perform activities of daily living (ADLs). They may also develop adduction deformity of their thumb during the later stages of the disease [1,2].

Clinical symptoms of degenerative (CMC) joint include pain, stiffness and weakness. This symptom appears when ligamentous laxity structures can't continue performing its function, and develop when ligamentous laxity at the trapezium metacarpal joint causes dorsovolar translation and recurrent synovitis with a loss of grip, strength and mobility deficits [3].

There have been numerous randomized controlled trials and systematic reviews on conservative management of thumb carpometacarpal (CMC) osteoarthritis (OA) over the past years, several with high-level evidence [4-6]. More recently, guidelines for therapeutic interventions have been developed in Europe, [7,8] where the incidence of thumb CMC OA is high.

Because of the recent developments, we decided to perform a national survey to gain a better understanding of the quality of conservative care provided to adults for thumb CMC OA in Spain.

Methods

An online 21 item survey was developed and distributed to members of the Spanish Society of Hand Therapists (Aetema) and students

enrolled in the Master of Hand program from Universidad Rey Juan Carlos, Universidad of Lasalle, Madrid, and Gimbernat of Barcelona. The survey was open from February to April 2016.

The protocol was approved by the Ethical Committee. The survey will explore hand therapists and student specialist opinions and knowledge of the present trends in treatment of the thumb and current practice guidelines. The items were grouped into the following 3 main areas:

- Evaluation measures
- Orthoses applications
- Interventions techniques

Results

A total of 290 questionnaires were returned, indicating a response rate of 37.9%, 42.7% female. Of the respondents, 52.9% were physical therapists and the remaining 47.1% were occupational therapists (Table 1). National distribution showed the majority of participants are currently working in private practice (78.6%). A large percentage of therapists measured functional outcomes, ROM, strength, pain and joint- or disease-specific provocative tests. Therapists and students used the QuickDASH (42.9%), MCP (71.4%), manual muscle test (50%), VAS (78.6%) and Kapandji opposition scale (42.9%), respectively. The majority of hand therapists reported that custom orthoses (forearm based thumb spica and CMC thenar-based MCP/IP free) was a part of their intervention plan (71.4%). More than half of the respondents used a orthotic for pain relief and heavy tasks, a home exercise program, followed

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Table 1. General information about questionnaire provision (results are expressed as percentage of total answers per item).

Question	Participants	
	Reply	[n (%)]
General information		
1. In the last 3 months, estimate the how many patients with complaints about thumb carpometacarpal joint (CMCJ) pain?	0-25	130, (92.9%)
2. What is your usual frequency and duration of visits for patients with this thumb pain?	1x/week	100, (71.4%)
3. What is the usual duration of visits for these patients?	6 weeks	65, (46.4%)
4. What is the average number of visits for patients with this thumb pain?	4-6 and 7-10	40, (28.6%)
5. How many years have you worked as a hand therapist?	<5	100, (71.4%)
Evaluation measures		
6. If you use a functional outcome tool, which one(s) do you use?	QuickDASH	60, (42.9)
7. Do you measure ROM of the thumb in your evaluation? If so what joints do you measure?	MCP	100, (71.4%)
8. If you measure thumb opposition, which method(s) do you use?	Kapandji	60, (42.9%)
9. In your evaluation of strength for this patient with thumb pain, what specific method(s) do you use to gather strength information?	Manual Muscle Test	70, (50%)
10. In your evaluation of pain for this patient with thumb CMC OA, what specific method(s) do you use to gather pain information?	VAS	110, (78.6%)
Orthoses for thumb		
11. Custom orthoses. Forearm-based thumb spica: indicate your typical instruction	Night only and for pain relief	22, (15.7%)
12. Custom orthoses. CMC/MCP Hand-based IP free: indicate your typical instruction	Don't use	30, (21.4%)
13. Custom orthoses. CMC Palm-based MCP/IP free: indicate your typical instruction	Don't use	65, (46.4%)
14. Custom orthoses. CMC Thenar-based MCP/IP free.	Heavy tasks	53.9, (38.5%)
15. Pre-fabricated orthoses. FOREARM-based thumb: indicate your typical instruction	Don't use	75, (53.6%)
16. Pre-fabricated orthoses. HAND-based thumb: indicate your typical instruction	Don't use	97, (69.2%)
17. Pre-fabricated orthoses. THUMB-based thumb: indicate your typical instruction	Don't use	108, (77.1%)
Intervention techniques		
18. Strengthening. Which thenar muscles do you strengthen?	APB, 1DI, OP	80, (57.1%)
19. Manual Therapy. In your use of Joint Mobilization for this thumb pain	Neurodynamic mobilization	70, (50%)
20. Neuromuscular Re-education (NMRE). Use of NMRE for thumb CMC?	Flexion at MCP, open kinetic chain exercises	82, (58.6%)
21. Patient Education. I instruct in Patient Education for these areas.	Home exercise	120, (85.7%)

APB: Abductor pollicis brevis
 1DI: 1st dorsal interosseous
 OP: Opponens pollicis;

by strengthening of thumb stabilization muscles (abductor pollicis brevis, 1st dorsal interosseous, opponens pollicis, 57.1%), Neuromuscular re-education (Flexion at MCP with open kinetic chain exercises, 58.3%) and manual therapy were reportedly used by slightly more than half of the therapists (Neurodynamic mobilization, 50%).

Discussion

Our study identified variability in the management of the thumb CMC OA by Spanish hand therapists and hand specialist students. This variability in conservative

treatment may be due in part to the limited detail provided by the recommendations of Aetema guidelines pertaining specifically to conservative management on patients with thumb CMC OA. Perhaps some variability is due to physician orders for modalities. Further studies are necessary in order to establish standardized guidelines for conservative treatment programs. This survey should be repeated to document further developments and even extended internationally to compare these results with more countries and to discover potential for future collaboration. Management of OA of the first CMC joint

remains a challenge for occupational therapy (OT) and physical therapy (PT), despite the development of new techniques for conservative management.

Statement of human and animal rights

This article does not contain any studies with human or animal subjects.

Statement of informed consent

Informed consent was obtained from all participants, and all procedures were conducted according to the Declaration of Helsinki.

Declaration of conflicting interests

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