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## Surgical release of de Quervain's stenosing tenosynovitis postpartum: can it wait?

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**Abstract** We compared the efficacy of conservative management of de Quervain's disease in 30 women postpartum (group 1) and 30 nonpregnant women (group 2). All patients underwent conservative management consisting of 2 weeks of splinting of the affected wrist, followed by physiotherapy and antiinflammatory drugs (NSAIDs). Clinical evaluation was performed using a functional score and the visual analogue scale (VAS) of Scott-Huskinson at entry to the study, 1 month later, and at a follow-up of 6 months. Conservative management gave good results in patients in group 1. At the 6-month follow-up a significant difference between the two groups on pain and function was evident. Only one patient in group 1 versus 25 patients in group 2 underwent surgery because of failure of conservative management.

**Résumé** Nous avons comparé l'efficacité du traitement conservateur de la maladie de Quervain chez 30 femmes en post partum (groupe 1) et 30 femmes non-enceintes (groupe 2). Toutes les patientes ont subi un traitement conservateur qui consiste en l'immobilisation deux semaines du poignet par une attelle, suivi d'une physiothérapie et de prise d'anti-inflammatoires (NSAIDs). L'évaluation clinique a été faite avec un score fonctionnel et l'échelle analogique visuelle (VAS) de Scott – Huskinson à entrée à l'étude, un mois plus tard, et à la suite des six mois. Le traitement conservateur a donné de bons résultats chez les patients du Groupe 1. À la suite des six mois, une différence considérable entre les deux

groupes sur la douleur et la fonction était évidente. Seulement une patiente du Groupe 1 contre 25 patientes du Groupe 2 ont subi la chirurgie à cause de l'échec du traitement conservateur.

### Introduction

In the last few years several authors have reported a relationship between de Quervain's disease (DD), pregnancy, and lactation [4, 10]. The management of DD is nonoperative in the first instance, but surgery should be considered if conservative measures implemented for 4–6 months fail [1, 11]. To our knowledge there are no reports comparing the results of conservative management between women in whom the condition presented after delivery and other women who developed the disease. We present the results of a single-center prospective study in which all patients received the same treatment.

### Material and methods

From December 1995 to December 1998, 30 consecutive women who presented with DD within 3 months of delivery (group 1), and 30 consecutive nonpregnant women suffering from DD (group 2), gave their informed consent to participate in this study. All patients included in the study had clinical evidence of de Quervain's tenosynovitis [5, 11], with a positive Finkelstein test [3], and a thickened retinaculum of the first dorsal compartment on high-resolution real-time ultrasonography (Fig. 1). All the diagnoses were made by one of us (GC).

Patients were excluded if they had rheumatoid arthritis, tuberculosis, posttraumatic wrist deformity, previous fracture of the ipsilateral forearm or wrist, history of overuse injury in the upper limb, menopause, history of DD longer than 3 months (for group 2), or were older than 40 years. The mean age was 25 (18–37) years in group 1 and 27 (19–40) years (NS) in group 2.

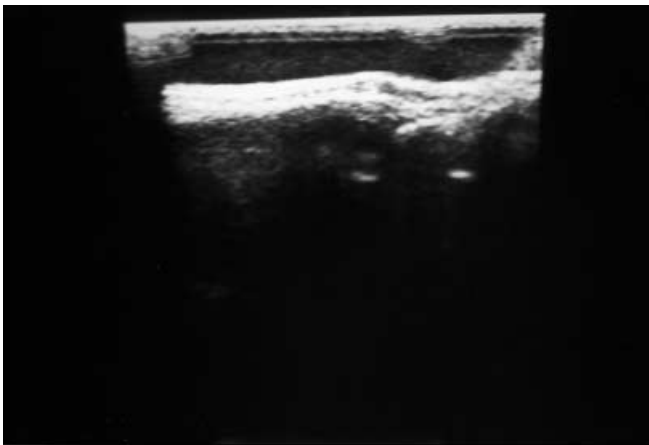
In group 1 two patients were left-handed, and three were left-handed in group 2 (NS). In group 1, 17 patients had bilateral DD, while bilateral disease was present in only three patients in group 2.

All patients were prescribed 2 weeks of splinting with the wrist held at 20° of extension and the thumb in extension. Patients also

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**Fig. 1** Longitudinal real-time ultrasound scan. Thickening of the retinaculum of the first dorsal compartment of the wrist is shown

received a standardized regimen of physiotherapy, with massage, cryotherapy, and ultrasound. If not intolerant, a short course (7 days) of NSAIDs was also administered.

All patients were evaluated in a blinded manner at inclusion to the study, again 1 month later, and at 6 months follow-up by one of us (VT). Only three patients did not attend the follow-up (one in group 1 and two in group 2): one reported a wrist fracture, one emigrated abroad, and one had died from a heart attack.

Clinical evaluation was performed using a patient-based scoring system where 1 = no symptoms, normal hand activities; 2 = mild pain, normal hand activities; 3 = moderate pain, reduced hand activities; and 4 = severe pain, no work activities. Pain evaluation was also effected using the visual analogue scale (VAS) of Scott-Huskinson. All evaluations were performed upon entrance to the study, and 1 and 6 months after presentation.

Statistical analysis was performed using Student's *t*-test for parametric data, and Mann-Whitney test for nonparametric data. A commercial statistical package (Excel 7) was utilized. Significance was set at  $P=0.05$ . The study received the approval of the Ethical Committee of the Istituto di Clinica Ortopedica, II Università di Napoli, Italy.

## Results

At presentation, patients in group 1 had a mean functional score of 2.35 (range 1–4, 2 median). Patients in group 2 had a mean functional score of 2.4 (range 1–4, 2 median,  $P=0.866$ ). The mean VAS score at presentation for group 1 patients was 33.5 (range 10–60, with a median value of 25). This was not significantly different from the mean VAS score for group 2 patients (mean 32, range 10–70, median 25,  $P=0.775$ ).

At the 1-month follow-up, the functional score had improved to an average of 1.75 in group 1 patients (range 1–3, median 2) and to a mean of 3 in group 2 patients (range 1–4, median 2.5, NS). The mean VAS score was 23.5 (range 10–60, median 25) in group 1 patients and 55 (range 30–80, median 50,  $P=0.001$ ) in group 2 patients.

At the 6-month follow-up, the functional score was significantly different between the two groups (group 1: mean 1.25, range 1–3, median 1.5; group 2: mean 3.35, range 2–4, median 2.5,  $P=0.005$ ). A similar picture

emerged in the VAS, with a mean of 12 (range 0–30, median 5) in group 1 patients and 56.5 (range 30–80, median 50,  $P=0.001$ ) in group 2 patients.

Twenty-five patients in group 2 and one patient in group 1 underwent surgery because of failure of conservative management.

## Discussion

Several authors have described DD in pregnancy and nursing mothers [4, 6, 7, 8, 10]. Surgical and conservative management of DD have been proposed [11], but studies on the natural history of DD are lacking. Therefore, it is difficult to make evidence-based management decisions. Conservative management may be ineffective, and surgical release may be plagued with recurrence, hypertrophic scars, and subcutaneous adhesions [2, 11]. Corticosteroid injections were not administered to our patients because of the risk of skin depigmentation [9] and tendon degeneration [11].

Our study shows that the response to treatment of DD is markedly different between the two groups and that nursing mothers show a greater tendency for better functional results and better pain control than do other women. This difference is seen clearly after 1 month, and is even more remarkable at follow-up. By the end of the study, surgical release was performed in only one nursing mother (group 1) but in 25 women in group 2. This response may result from intrinsic intervention bias: nursing mothers are frequently checked and receive an early diagnosis of DD while other women may not. Also, nursing mothers may tend to take better care of themselves and follow medical prescriptions more accurately than other women.

Johnson [4] reported the role of mechanical stress on the thumb due to holding the baby, but in our nursing mothers there was no correlation between the side of presentation of DD and the dominant hand. In our study, the nondominant hand affected by DD showed the same distribution as the dominant hand in both groups.

Hormonal association or fluid retention may play a role in the postpartum period [4, 7, 10] and may explain the higher rate of bilateral DD in group 1 patients.

A major strength of this study is the fact that the same doctors made the diagnoses, and treatment was standardized and managed daily by two of us (GT and GP) in the Physiotherapy Department of our institution. Also, another physician (VT), unaware of patients' previous condition, made the final assessment. Finally, we achieved an almost 100% follow-up rate: this was helped by positive patient-doctor relationships.

One limitation of this study lies in the number of patients included, which may be due to the stringent selection criteria aimed at achieving a homogeneous population. However, while the study population was small, the different responses of the groups were well defined. Therefore, this study is valuable to hypotheses formulation when studying DD natural history. Many

authors [4, 6, 7, 8, 10] reported a high success rate with conservative management; however, their studies were retrospective or case reports only, whereas our study is a prospective investigation.

In conclusion, conservative management of DD in nursing mothers produced better results than in other women.

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