Epidemiology and approach in Carpal Tunnel Syndrom: An analysis of the impact on return on labor

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ABSTRACT: Background: Carpal Tunnel Syndrome (CTS) is defined as a focal, chronic and symptomatic compressive neuropathy of the median nerve at the wrist. It is the most prevalent neuropathy in the population. The objective of the study to describe the epidemiological, clinical and occupational profile of patients with CTS who underwent median nerve neurolysis in the carpus and the Occupational Therapy intervention attended by the Sistema Único de Saúde (SUS). Methods: This is a descriptive study, carried out from January 2014 to December 2017 at Centro Estadual de Reabilitação e Readaptação Dr. Henrique Santillo (CRER), in the city of Goiânia, located in the Center-West region of Brazil. The Reference population covered the medical records of patients submitted to the surgical procedure and rehabilitation. During this period, 698 patients underwent surgery and rehabilitation, and the sample of 249 charts analyzed was defined by means of a sample calculation using the finite sample proportion test. A margin of error of 5% was considered in the calculation. Out-of-time-range patients and those with other associated hand injuries were excluded. Our study was approved by the Research
Ethics Committee registered under number 97279.121. The data were analyzed with the aid of the SPSS 23 statistical package. In all analyzes, the significance level adopted was 5% (p < 0.05).

**Results:** The demographic profile was composed of 223 women, representing 89.6% of the sample, in the age group between 40 and 59 years, being 74.7% of right-handed patients. Comorbidities were present in 63.1% of the patients and the main ones are Systemic Arterial Hypertension (SAH), Diabetes Mellitus (DM) and Fibromyalgia. The vast majority of cases were classified as severe or very severe staging. The labor distribution was categorized into 12 distinct groups, with workers doing domestic work prevailing. **Conclusion:** A greater bilateral involvement was observed in the studied sample, classified in the severe or very severe stages, which resulted in the surgical treatment and early intervention and systematization of occupational therapy, which favored the patient to be replaced in work activities in about 84, 7% of the cases surveyed.

**Keywords:** Carpal Tunnel Syndrome, Epidemiology, Treatment, Occupational Therapy and Work Activity

**Introduction**

Carpal Tunnel Syndrome (CTS) is defined as a focal, chronic and symptomatic compressive neuropathy of the median nerve at the wrist, being the physiological evidence a increasing pressure within the carpal tunnel and the increase of nerve function at the wrist.\(^1\)\(^-\)\(^3\) It is the most frequent neuropathy, responsible for 90% of the cases\(^4\) and estimated that they are present in 3.8% of the world population. Its incidence is 100 for every 100,000 individuals\(^5\) with a higher prevalence in females, with a peak between 40 and 59 years.\(^6,7\)

Compression of the median nerve in the carpal canal can be caused by etiologies of idiopathic origins, secondary to other health conditions; dynamic, related to extreme wrist movement; and acute, caused by trauma and burns. A specific etiological factor may not usually be indicated during the diagnosis of the disease.\(^7,8\) The diagnosis of Carpal Tunnel Syndrome is clinical and can be based on specific tests and electrophysiological studies.\(^9,10\) In clinical evaluation, it is common to observe symptoms such as numbness and pain, nocturnal awakening by paresthesia, dysesthesia in the path of the nerve median, tenacious atrophy; in cases of greater severity, the impairment of the manual function is evidenced.\(^11\)\(^-\)\(^13\)

Surgical treatment is the recommended approach in cases of greater severity or failure of conservative treatment and, in the great majority, causes definitive remission of symptoms. The technique employed depends on the preference and skill of the surgeon, available materials and patient characteristics.\(^6,14\) Occupational therapy rehabilitation should be started early after
surgery and have the purpose of promoting independence in activities of daily living and return to work.\textsuperscript{15, 16}

The objective of this study was to characterize the profile of patients with a diagnosis of Carpal Tunnel Syndrome submitted to median nerve neurolysis treated at a tertiary level hospital of the SUS, identifying the epidemiological, clinical and occupational profile of these patients and analyzing the labor situation of the patients after medical and therapeutic treatments.

Method

A retrospective study was carried out by means of data collection of electronic medical records of patients with a diagnosis of Carpal Tunnel Syndrome attended at a tertiary hospital, aimed at the rehabilitation of patients from the Unified Health System. Parameters such as gender, age, laterality, labor activity, comorbidities, staging of Carpal Tunnel Syndrome, symptomatology, onset of symptoms, type of surgical intervention, beginning of occupational therapy rehabilitation and labor return.

To compose the sample a random lottery was carried out among patients who underwent median neurolysis between January 2014 and December 2017. During this period 698 patients were operated on and rehabilitated and the sample of 249 medical records analyzed, defined by means of the calculation of samples using the sampling test of the proportion of finite samples. A margin of error of 5\% was considered in the calculation.

Inclusion criteria included patients over 18 years of age, of both sexes, diagnosed with Carpal Tunnel Syndrome (ICD10, G56.0), attended at the hand surgery and CRER microsurgery outpatient clinic and submitted to nerve neurolysis in the carpal tunnel. Patients with other associated hand injuries, such as Dupuytren's contracture, De Quervain's tenosynovitis, ulnar canal compressive syndrome and / or patients operated out of the coverage period, were excluded.

The present study was approved by the Comitê de Ética em Pesquisa do Centro de Excelência em Ensino, Pesquisa e Projetos Leide das Neves registered under the number 97279.121.

Statistical analysis
Data were analyzed with the aid of version 23 of the statistical package SPSS (Statistical Package for Social Science). The characterization of demographic, professional profile, clinical aspects, symptomatology and rehabilitation were performed by means of absolute (n) and relative (%) frequency. In the description of comorbidities, cumulative frequency was used, since each patient could present multiple comorbidities. The association of the labor return with the exploratory variables was performed by applying the Pearson Chi-square test. In situations where there were contingencies above 2x2, the PostHoc chi-square test was performed, applying Bonferroni correction, as proposed by MacDonald & Gardner (2000). In all analyzes, the significance level adopted was 5% (p <0.05).

Results

During the period of the research, 249 medical records of patients with the diagnosis of Carpal Tunnel Syndrome submitted to surgery and rehabilitation procedures were analyzed. The demographic profile consisted of 223 women, representing 89.6% of the sample between the ages of 40 and 59 years. The mean age found was 54.31 years (± 10.06); 74.7% of the patients were right-handed, as shown in table 1.

Table 1 – Demographic profile description of patients

| Demographic profile | N   | %   |
|---------------------|-----|-----|
| **Age Group**       |     |     |
| 28 a 39             | 15  | 6,0 |
| 40 a 59             | 165 | 66,3|
| > 60                | 69  | 27,7|
| **Sex**             |     |     |
| Female              | 223 | 89,6|
| Male                | 26  | 10,4|
| **Scholarity**      |     |     |
| No Scholarship      | 5   | 2,0 |
| 1 - 4 years         | 86  | 34,5|
| 5 - 8 years         | 68  | 27,3|
| 9 - 11 years        | 68  | 27,3|
| > 11 years          | 22  | 8,9 |
Comorbidities were present in 63.1% of the samples and did not present a significant correlation with Carpal Tunnel Syndrome. The main comorbidities found among the patients treated were Systemic Arterial Hypertension (SAH), Diabetes Mellitus (DM) and Fibromyalgia; their incidence is shown in figure 1.

Figure 1 – Comorbidities
The clinical aspects were classified taking into account the affected dimidium. It was observed that 67.9% (169) of the patients reported bilateral involvement; 20.5% (51), involvement of the right dimidium; and 11.6% (29), involvement of the left dimidium. Among the symptoms reported by the patients and the analysis of the distribution between symptomatology and dysmenorrhea, 60.2% (150) of the patients reported bilateral sensitivity changes. Motor alterations and pain changes prevailed in the right dimidium, respectively, in 50.2% (125) and 50.6% (126) of the patients.

Regarding the staging of the disease in patients with right hand involvement, 47.4% (118) presented the severe stage of the syndrome and 30.5% (76), the very severe staging. On the other hand, in patients with impaired left dimidium, the severe stage of the disease was present in 36.9% (92) and the most severe in 18.9% (47).

The professions were categorized into 12 different groups according to the work profile. Domestic workers account for 54.2% (135) of the population served, followed by seamstresses, who represent 10.8% (27) of the patients, and by trade professionals, who represent 6.8% (17), as pointed out by table 2.

According to the situation of these patients in the labor market, 31.3% (78) were in formal job; 26.9% (67) were domestic workers; 13.7% (43), autonomous; 11.6% (29) were retired; and 11.7% (29) performed informal work, as detailed in table 2.

Table 2 – Professional profile description of patients

| Occupation        | n  | %   |
|-------------------|----|-----|
| Retired           | 15 | 6,0 |
| Construction      | 7  | 2,8 |
| Seamstress        | 27 | 10,8|
| Driver            | 6  | 2,6 |
| Teacher           | 9  | 3,6 |
| Health professionals | 6  | 2,4 |
Aestetic professionals 7 2,8  
Trade professionals 17 6,8  
Managers 9 3,6  
Domestic worker 135 54,2  
Rural worker 4 1,6  
Others 7 2,8  

**Labor Market Status**  
Retired 29 11,6  
Autonomous 34 13,7  
Unemployed 12 4,8  
Domestic worker 67 26,9  
Formal job 78 31,3  
Informal Job 29 11,7  

\[ n = \text{absolut frequency}; \% = \text{relative frequency} \]

All 249 patients underwent median neurolysis. The mini-open technique was recommended in 225 patients and the open procedure in the other 24 cases. The institutional protocols were followed and 100% of the patients underwent the rehabilitation process. Of these, 88.4% started early rehabilitation and 52.2% remained in rehabilitation between one and 60 days, as presented in table 3.

Table 3 – Clinical aspects description of patients

| Description                  | N   | %   |
|------------------------------|-----|-----|
| **Affected Side**            |     |     |
| Bilateral                    | 169 | 67,9|
| Right                        | 51  | 20,5|
| Left                         | 29  | 11,6|
| **Surgery**                  |     |     |
| Right                        | 209 | 83,9|
| Left                         | 40  | 16,1|
| **Disease progression time** |     |     |
| \( \leq 5 \) years           | 83  | 33,4|
| 6 - 10 years                 | 135 | 54,2|
| \( > 10 \) years            | 31  | 12,4|
|                | No       | Yes      |
|----------------|----------|----------|
| Away from work | 26       | 223      |
|                | 10,4     | 89,6     |
| Right hand staging | 27   | 10,8     |
| No change      | 1        | 0,5      |
| Minnor         | 27       | 10,8     |
| Mild           | 118      | 47,4     |
| Severe         | 76       | 30,5     |
| Very Severe    | 47       | 18,9     |
| Left hand staging | 47   | 18,9     |
| No change      | 6        | 2,4      |
| Minnor         | 57       | 22,9     |
| Mild           | 92       | 36,9     |
| Severe         | 47       | 18,9     |
| Very Severe    |          |          |
| Comorbidities  |          |          |
| No             | 92       | 36,9     |
| Yes            | 157      | 63,1     |
| Tecnoque       |          |          |
| Mini-open      | 225      | 90,4     |
| Open procedure | 24       | 9,6      |
| Rehabilitation onset | 220 | 88,4     |
| Precocious     |          |          |
| Late           | 29       | 11,6     |
| Rehabilitation Time | 130 | 52,2     |
| 1 - 60 days    |          |          |
| > 60 days      | 119      | 47,8     |

n = absolut frequency; % = relative frequency

Occupational therapists, in their rehabilitation processes, focused on the functional components and reported in their therapeutic plans that 99.6% of the patients were submitted to a cicatrization care protocol; 85.5%, to the protocol of sensorial reeducation; 84.7% underwent techniques for gain of range of motion, re-education and muscle balancing; and 86.3% underwent functional training. However, only 32.9% of the professionals presented, in
their therapeutic plan, the concern of the rehabilitator regarding the patients' return to their work activities. Nevertheless, the surgical and rehabilitation protocol ensured that 84.7% of the patients surveyed returned to their professional activities, as described in table 4.

Table 4 – Description of rehabilitation according to surgery side

| Scarring | Surgery n (%) | Total | 248 (99,6) |
|----------|---------------|-------|-------------|
| Right    | 209 (83,9)    | 0,19  | 0,66        |
| Left     | 40 (16,1)     |       |             |
| No       | 1 (0,5)       | 0 (0,0)| 1 (0,4)     |
| Yes      | 208 (99,5)    | 40 (100,0)|         |

| Sensory | Surgery n (%) | Total | 213 (85,5) |
|---------|---------------|-------|-------------|
| Right   | 179 (85,6)    | 0,01  | 0,91        |
| Left    | 34 (85,0)     |       |             |
| No      | 30 (14,4)     | 6 (15,0)| 36 (14,5)  |
| Yes     | 179 (85,6)    | 34 (85,0)| 213 (85,5)|

| Motor   | Surgery n (%) | Total | 211 (84,7) |
|---------|---------------|-------|-------------|
| Right   | 179 (85,6)    | 0,89  | 9,36        |
| Left    | 32 (80,0)     |       |             |
| No      | 30 (14,4)     | 8 (20,0)| 38 (15,3)  |
| Yes     | 179 (85,6)    | 32 (80,0)| 211 (84,7)|

| Functional | Surgery n (%) | Total | 215 (86,3) |
|------------|---------------|-------|-------------|
| Right      | 177 (84,7)    | 3,02  | 0,08        |
| Left       | 38 (95,0)     |       |             |
| No         | 32 (15,3)     | 2 (5,0)| 34 (13,7)  |
| Yes        | 177 (84,7)    | 38 (95,0)| 215 (86,3)|

| Labor      | Surgery n (%) | Total | 82 (32,9) |
|------------|---------------|-------|-----------|
| Right      | 67 (32,1)     | 0,45  | 0,50      |
| Left       | 15 (37,5)     |       |           |
| No         | 142 (67,9)    | 25 (62,5)| 167 (67,1)|
| Yes        | 67 (32,1)     | 15 (37,5)| 82 (32,9)|

*Pearson Chi-square
n = absolut frequency; % = relative frequency

In the severe stagings, 48.3% (p <0.048) of the patients in the right hand resumed work activities, as well as 16.6% of the severe cases in the left hand (p <0.03), as recorded in table 5. Rehabilitation (Table 5) was a preponderant factor for labor return in 86.7% of the cases (p <0.03).

Table 5 – Result of the association of the labor return with the clinical aspects of the patients

| Labor Return n (%) | Total | 167 (67,1) |
|--------------------|-------|-----------|
|                    |       |           |
| Right              | 67 (32,1) | 82 (32,9)|
| Left               | 15 (37,5)| 82 (32,9)|
| No                 | 142 (67,9)| 25 (62,5)| 167 (67,1)|
| Yes                | 67 (32,1) | 15 (37,5)| 82 (32,9)|
|                                | No Return | Returned |         |         |
|--------------------------------|-----------|----------|---------|---------|
|                                | 38 (15,3) | 211 (84,7)|        |         |
| **Affected side†**             |           |          |         |         |
| Bilateral                      | 29 (76,3) | 140 (66,4) | 1,47   | 0,23   |
| Right                          | 4 (10,5)  | 47 (22,3)  | 2,73   | 0,10   |
| Left                           | 5 (13,2)  | 24 (11,4)  | 0,10   | 0,75   |
| **Surgery***                   |           |          |         |         |
| Right                          | 33 (86,8) | 176 (83,4) | 0,28   | 0,59   |
| Left                           | 5 (13,2)  | 35 (16,6)  |        |        |
| **Disease progression time†**  |           |          |         |         |
| ≤ 5 years                      | 9 (23,7)  | 74 (35,1)  | 1,88   | 0,17   |
| 6 - 10 years                   | 22 (57,9) | 113 (53,6) | 0,24   | 0,62   |
| > 10 years                     | 7 (18,4)  | 24 (11,4)  | 1,47   | 0,23   |
| **Away from work***            |           |          |         |         |
| No                             | 0 (0,0)   | 25 (11,8) | 5,00   | 0,02   |
| Yes                            | 38 (100,0)| 186 (88,2)|        |        |
| **Right hand staging†**        |           |          |         |         |
| No change                      | 5 (13,2)  | 22 (10,4)  | 0,25   | 0,62   |
| Minor                          | 0 (0,0)   | 1 (0,5)   | 0,18   | 0,67   |
| Mild                           | 5 (13,2)  | 22 (10,4)  | 0,25   | 0,62   |
| Severe                         | 16 (42,1) | 102 (48,3) | 0,50   | 0,48   |
| Very Severe                    | 12 (31,6) | 64 (30,3)  | 0,02   | 0,88   |
| **Left hand staging†**         |           |          |         |         |
| No change                      | 4 (10,5)  | 43 (20,4)  | 2,04   | 0,15   |
| Minor                          | 1 (2,6)   | 5 (2,4)   | 0,01   | 0,92   |
| Mild                           | 5 (13,2)  | 52 (24,6)  | 2,41   | 0,12   |
| Severe                         | 16 (42,1) | 76 (36,0)  | 0,51   | 0,47   |
| Very Severe                    | 12 (31,6) | 35 (16,6)  | 4,73   | 0,03   |
| **Comorbidities***             |           |          |         |         |
| No                             | 13 (34,2) | 79 (37,4)  | 0,14   | 0,70   |
| Yes                            | 25 (65,8) | 132 (62,6) |        |        |
| **Technique**                  |           |          |         |         |
| Mini-open                      | 34 (89,5) | 191 (90,5) | 0,04   | 0,84   |
Patients older than 60 years had greater limitations in response to the therapeutic protocol: 42.1% did not return to work ($p < 0.02$). Another factor that may have contributed negatively was the disease evolution time: 57.9% of patients who did not return to work had between 6 and 10 years of clinical evolution of the disease. In the study it was also observed that patients with bilateral sensory symptoms had a lower capacity to return to activities at the expense of patients unilaterally. The non-return index in this group was 73.7% ($p < 0.07$).

Table 6 – Result of the association of the labor return with the demographic profile of the patients.

| Age group | Return to work n (%) | $x^2$ | $p$ |
|-----------|----------------------|------|-----|
| No return | Returned             |
| 28 – 39   | 0 (0,0)              | 15 (7,1) | 0,12 | 0,23 |
| 40 – 59   | 22 (57,9)            | 143 (67,8) | 0,11 | 0,33 |
| ≥ 60      | 16 (42,1)            | 53 (25,1) | 4,82 | 0,02 |
| Sex*      |                      |      |     |
| Female    | 34 (89,5)            | 189 (89,6) | 0,01 | 0,98 |
| Male      | 4 (10,5)             | 22 (10,4) |      |      |
| Scholarity† |                    |      |     |
| No scholarship | 0 (0,0)   | 5 (2,4) | 0,92 | 0,34 |
| 1 - 4 years | 13 (34,2)   | 73 (34,6) | 0,00 | 0,96 |
| 5 - 8 years | 3 (7,9)     | 65 (30,8) | 8,51 | <0,001 |
| 9 - 11 years | 19 (50,0) | 49 (23,2) | 11,63 | <0,001 |
| > 11 years | 3 (7,9)     | 19 (9,0) | 0,05 | 0,82 |
| Origin*          | Goiânia     | Country side of Goiás |
|-----------------|-------------|-----------------------|
|                 | 26 (68,4)   | 154 (73,0)            |
| Manual dominance† |             |                       |
| Ambidextrous    | 0 (0,0)     | 2 (0,9)               |
| Right           | 30 (78,9)   | 156 (73,9)            |
| Left            | 8 (21,1)    | 53 (25,1)             |

*Pearson Chi-square; †PostHoc Chi-square
n = absolut frequency; % = relative frequency

Table 7 – Result of the association of labor return with patients' symptoms

|                     | No Return | Returned | $x^2$ | $p$† |
|---------------------|-----------|----------|-------|------|
| **Sensitive symptomatology** |           |          |       |      |
| Absent              | 1 (2,6)   | 10 (4,7) | 0,34  | 0,56 |
| Bilateral           | 28 (73,7) | 122 (57,8)| 3,38  | 0,07 |
| Right               | 5 (13,2)  | 69 (32,7) | 5,89  | 0,02 |
| Left                | 4 (10,5)  | 10 (4,7)  | 2,03  | 0,15 |
| **Motor symptomatology** |       |          |       |      |
| Absent              | 6 (15,8)  | 34 (16,1) | 0,00  | 0,96 |
| Bilateral           | 14 (36,8) | 57 (27,0) | 1,53  | 0,22 |
| Right               | 18 (47,4) | 107 (50,7)| 0,14  | 0,70 |
| Left                | 0 (0,0)   | 13 (6,2)  | 2,47  | 0,12 |
| **Pain symptomatology** |        |          |       |      |
| Absent              | 7 (18,4)  | 33 (15,6) | 0,18  | 0,67 |
| Bilateral           | 13 (34,2) | 57 (27,0) | 0,83  | 0,36 |
| Right               | 16 (42,1) | 110 (52,1)| 1,30  | 0,26 |
| Left                | 2 (5,3)   | 11 (5,2)  | 0,00  | 0,99 |

†PostHoc Chi-square
n = absolut frequency; % = relative frequency
Table 8 – Description of patients' symptoms

| Symptomatology | N   | %   |
|----------------|-----|-----|
| **Sensitive**  |     |     |
| Absent         | 11  | 4.4 |
| Bilateral      | 150 | 60.2|
| Right          | 74  | 29.7|
| Left           | 14  | 5.7 |
| **Motor**      |     |     |
| Absent         | 40  | 16.1|
| Bilateral      | 71  | 28.5|
| Right          | 125 | 50.2|
| Left           | 13  | 5.2 |
| **Pain**       |     |     |
| Absent         | 40  | 16.1|
| Bilateral      | 70  | 28.1|
| Right          | 126 | 50.6|
| Left           | 13  | 5.2 |

n = absolut frequency; % = relative frequency

**Discussion**

**Study Relevance**

As observed in the results of the epidemiological profile, there was a predominance of female among the study participants, a fact that corroborates national and international studies. The data collected presented a ratio of 8.57: 1; the age group with the greatest evidence was that of patients aged between 40 and 59 years (66.3%).

There is a growing prevalence of Carpal Tunnel Syndrome occurrences associated with the diseases that make up the plurimetabolic syndrome - hypertension, diabetes, obesity, hypothyroidism and dyslipidemia. However, there is much debate about whether there is a causal link or whether what occurs is a prevalence overlap with the studied age group.

Kang et al. pointed out in their studies that 65% of patients with a Carpal Tunnel Syndrome diagnosis showed bilateral involvement of the dimids, which is similar to the result
of our study, which showed bilateral involvement in 67.9%. According to Middleton and Anakwe, Carpal Tunnel Syndrome occurs bilaterally in 73% of cases; yet bilaterality does not manifest simultaneously.

Regarding the symptoms mentioned by the patients evaluated, bilateral sensitivity changes were reported in 60.2% of the cases; motor alterations and pain changes prevailed in the right dimidium by 50.2% and 50.6%, respectively. Jesus Filho conducted a cross-sectional study by analyzing 56 charts between 2010 and 2012 and found sensory changes in 50% of the patients; also observed motor alterations in 62.5% and presence of pain in 74% of patients. The international literature indicates that the sensorial symptoms were present in 87.2% of the patients; pain was reported in 74% of cases and motor alterations in 40.3%. It is believed that the divergence between the data found in the international literature and the data presented by the aforementioned research is due to the different sizes of the samples and the difference in the epidemiological profile of the patients.

Regarding staging of the disease in patients with impaired right dimidium, 47.4% presented the severe stage and 30.5%, the very severe. On the other hand, in patients with compromised left dimidium, the severe stage of the disease was present in 36.9% and the most severe in 18.9%. The severity of the cases that enter a tertiary hospital with a hand and wrist specialist is in line with the international literature, which has demonstrated the higher prevalence of severe and severe staging in patients from referral centers, as well as bilateral involvement in these patients. It also coincides with the primacy of the change in the dominant dimension, which, in the majority of the population, is the right.

The data found that the mean course of the disease, between the onset of symptoms and the recommended treatment, lasted between 6 and 10 years, in which time chronicity of CTS is considered until its resolution. This information raised by our research corroborates the literature, which predicted an average of 4.3 years of chronification of the syndrome. Chronicity is a factor that causes disability and compromises the quality of life and performance of the individual in their life activities daily and work.

Regarding the job profile, the professions were categorized into 12 groups. Domestic workers make up 54.2% of patients with bilateral CTS. Data from the national literature show that Carpal Tunnel Syndrome finds a higher prevalence among people who perform activities that require grip strength and repetitive movement in flexion and / or wrist extension, which corroborates the data of the presented occupational profile and our research.

Foreign literature points to a correlation between Carpal Tunnel Syndrome and computer use; however, this statement is fragile when it comes to occupational risks.
All patients whose medical records were analyzed during the study were submitted to median neurolysis. This fact is mainly due to the staging of the disease being in the severe and very serious stages and to the chronicity of the cases, which suggests that many other therapeutic options had already been attempted before the arrival of the patient to the specialized service.\textsuperscript{3,9,16,22} The recommended surgical technique took into account the characteristics of the patients and their needs, as well as the experience of the surgeon.

The early rehabilitation instituted between the 1st and 15th day was performed in 88.4\% of the cases. The goal of postoperative rehabilitation is to support the resolution of symptoms and to restore temporarily lost manual function. Studies indicate that occupational therapy interventions can combine scar management, strategies for edema control, sensory re-education, range of motion, strengthening and functional activities with gradual progression,\textsuperscript{3,25,26} which meets the objectives presented by rehabilitation protocol.

The data found demonstrate a partial contradiction between the clinical practice and the scope of the occupational therapist attributions, since only 32.9\% of the medical records presented, in the therapeutic plan, the concern of the rehabilitator regarding the patients' return to their work activities. This point of the survey is of importance because it portrays a limitation of therapeutic care in relation to issues that directly affect the quality of life and the social inclusion of people with functional restrictions.\textsuperscript{17,18,26} Job goals become even more relevant because if it is a portion of the population of economically active age and active in their communities and family nuclei.

The study found that 52.2\% of the patients remained in rehabilitation for up to 60 days, which resulted in absence of symptoms, preserved manual function and labor return capacity. Of this universe, 89.6\% were temporarily removed from their job functions for performing activities that could undermine the success of the surgical procedure, rehabilitation and reintegration into the labor market. There is currently no consensus regarding safe recommendations for the return of patients to different occupations.\textsuperscript{27}

After median nerve neurolysis and the rehabilitation process instituted by occupational therapists, 84.7\% of the patients returned to work.

**Final Considerations**

The study sample showed that there is a prevalence of CTS in females, in domestic workers, in their bilateral variant, between the severe and very serious stages, with the onset of symptoms suggestive of chronicity, and related to work activities.
Surgical treatment, early intervention and, finally, the systematization of occupational therapy - although more closely related to the functional and symptomatic components than to the activities and social participation - were the recommended procedures, of fundamental relevance for the patient's labor activities in 84.7% of the cases surveyed.

**Interest conflicts**

There is no conflict of interest.

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