COMORBIDITY AND RETIREMENT IN PRIMARY FOCAL CERVELICAL DYSTONIA

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Objective

The objective of this study was to investigate comorbidities in cervical dystonia (CD) and effect of CD to retirement in Finland.

Background

Dystonia is a movement disorder characterized by abnormal movements or postures caused by sustained or intermittent involuntary muscle contractions (1). CD is most common form of dystonia, the prevalence being 3/1000 persons per million in Finland. The most prominent feature of CD is abnormal posture of head and/or limbs. Besides the motoric symptoms, non-motoric symptoms, especially psychiatric comorbidities and pain have been reported to occur in CD (2). The onset of CD is usually before 40 years of age, and even though CD does not reduce life expectancy, it may cause severe functional and psychosocial impairment in everyday life [3,4].

In a questionnaire study in Finland, CD was reported to cause earlier retirement than in average population (6). Employment status is also affected by CD, and 69% of patients was reported to have reduced overall productivity (7,8).

The study was based on case reports including CD patients who were studied from Finnish Centre for Pensions. The number of retirement months before age 65 years was calculated and further divided into groups under 24 months, 25-35 months and 36-48 months, as well as on type of retirement (old age pension or sickness pension, partial or full-time pension), and the diagnoses of retirement.

Methods

The patient material comprised of patients ranged 16-85 years old with primary focal cervical dystonia from university hospitals of Helsinki and Tampere. Patients had received treatment because of dystonia during years 2007-2014. The diagnosis was confirmed from patient records according to classification of dystonia [1]. For each patient four gender and age matched controls was assigned.

The comorbidity was assessed by reviewing all ICD-10 codes from care registry of National Institute of Health and Welfare (THL), for CD patients and controls. The diagnoses with less than 3 visits per diagnosis were removed. In primary analysis, first three characters of ICD-10 codes were used to define category, and for selected categories, a fourth character was used to define category.

The retirement data was obtained from Finnish Centre for Pensions. The number of retirement months before age 65 years was calculated and further divided into groups under 24 months, 25-35 months and 36-48 months, as well as on type of retirement (old age pension or sickness pension, partial or full-time pension), and the diagnoses of retirement.

Results

From years 2007-2014 1013 records of 937 adult primary focal CD patients were screened. The results were compared to 3746 age and gender matched controls.

The registered comorbidities of CD patients as compared to controls were screened from care registry. ICD-10 codes, diagnosis codes were left with significantly different occurrence between CD patients and controls (Table 1). Recurrent and single episodes of depression were combined as depressive disorders and phobic and other anxiety disorders were considered as anxiety disorders. The registries also detected depression and anxiety, cervical disc disorders and dopsoragia. The diagnosis codes of tension neck and essential tremor were also more common with CD patients.

Table 1. Comorbidities with cervical dystonia patients

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>n=937</th>
<th>n=3746</th>
<th>OR (95% C.I)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cervical disc disorders</td>
<td>23 (2,5%)</td>
<td>16 (0,4%)</td>
<td>5,9 (3,1-11,1)</td>
<td>&lt;0,05</td>
</tr>
<tr>
<td>Dorsalgia</td>
<td>109 (11,7%)</td>
<td>213 (5,7%)</td>
<td>2,1 (1,5-2,5)</td>
<td>&lt;0,05</td>
</tr>
<tr>
<td>Unspecific soft tissue disorders</td>
<td>53 (5,7%)</td>
<td>94 (2,5%)</td>
<td>2,3 (1,7-3,3)</td>
<td>&lt;0,05</td>
</tr>
<tr>
<td>Essential tremor</td>
<td>44 (4,7%)</td>
<td>2 (0,1%)</td>
<td>22,2 (3,9-132,0)</td>
<td>&lt;0,001</td>
</tr>
<tr>
<td>Tension neck</td>
<td>43 (4,7%)</td>
<td>82 (2,2%)</td>
<td>1,0 (0,6-1,8)</td>
<td>n.s</td>
</tr>
<tr>
<td>Depression disorders</td>
<td>120 (12,8%)</td>
<td>166 (4,4%)</td>
<td>2,3 (2,4-5,1)</td>
<td>&lt;0,05</td>
</tr>
<tr>
<td>Anxiety disorders</td>
<td>61 (6,5%)</td>
<td>61 (1,6%)</td>
<td>4,2 (2,8-6,8)</td>
<td>&lt;0,001</td>
</tr>
<tr>
<td>Somatofobia disorders</td>
<td>16 (1,7%)</td>
<td>12 (0,3%)</td>
<td>1,2 (0,4-3,8)</td>
<td>n.s</td>
</tr>
<tr>
<td>Specific personality disorders</td>
<td>17 (1,6%)</td>
<td>17 (0,5%)</td>
<td>4,1 (2,2-9)</td>
<td>&lt;0,05</td>
</tr>
<tr>
<td>Dental caries</td>
<td>134 (14,3%)</td>
<td>363 (9,8%)</td>
<td>3,3 (3,1-3,7)</td>
<td>&lt;0,001</td>
</tr>
<tr>
<td>Abdominal and pelvic pain</td>
<td>74 (7,9%)</td>
<td>148 (4,1%)</td>
<td>2,1 (1,6-2,8)</td>
<td>&lt;0,001</td>
</tr>
</tbody>
</table>

Retirement rate

348 (37%) CD patients and 559 (15%) controls had been on full-time or partial sickness pension. The first retirement, or a calculated age of over 65 years, significantly lower for dystonia patients than controls (5,6 ± 8.3 vs. 39,8 ± 6.3 years, p<0,001, Mann-Whitney U test).

In average, CD patients had significantly more full-time retirement months before age 65 years than controls (32,8 ± 8,7 vs.13,3 ± 4,7 months, p<0,05). The average months of sickness pension were higher in the control group of CD patients compared to controls. The CD patients had also significantly more partial sickness pension months than controls (4,6 ± 2,1 ± 10,0 ± 9,0 months, p<0,01). (Figure 1).

The patients with dystonia and anxiety/depression had significantly more retirement months than dystonia patients without anxiety/depression (34,4±8,3 vs. 25,3±4,4 months). Similarly, CD patients with anxiety/depression had more sickness pension months than control patients with anxiety/depression (39,4±2,9 months), however, the difference did not reach significance. (Figure 2)

The diagnoses of retirement with CD patients

Of 116 studied CD patients, 19% were retired because of dystonia. As compared to 10 most common retirement diagnoses in control group, besides dystonia diagnoses, the diagnosis codes for depression and anxiety were more common with CD patients than Controls. Other diagnoses had mostly similar occurrence. (Table 2)

Conclusions

Cervical dystonia reduces considerably working ability and leads to earlier retirement. Anxiety and depression are most notable comorbidities, even though their occurrence was less than previously reported. As we did not actively screen for psychiatric symptoms, it is likely, that the true comorbidity of psychiatric disorders is lot higher, and a considerable proportion of them are not diagnosed or reported in care registry.

The co-occurrence of psychiatric disorders further reduces more working ability. Our results suggest that more health care resources should be administered in treatment of CD to longer maintain working ability of CD patients.

Psychiatric comorbidities should be taken into consideration in CD treatment.

Acknowledgements

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References