PARKINSON'S DISEASE AND PARKINSONISM AMONG HARRIS COUNTY VETERANS

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Abstract:

**Background:** Parkinson’s disease is a prevalent disorder with distinct clinical and neuropsychological features, although its causes are not firmly established. This study examined the incidence of PD in a subset of the veteran population in Harris County.

**Methods:** Using data from the Houston Veterans Administration Medical Center, we identified eligible veterans from Harris County utilizing the Houston Veteran’s Administration Medical Center for the period January 1, 1998 through December 31, 2000. For all eligible patients, information to support a diagnosis of PD or parkinsonism was abstracted from available records.

**Results:** Among over 150,000 veterans screened, 192 cases of parkinsonism and 40 cases of PD were identified. The median age at initial diagnosis for all cases is 74.0 (range: 37-90). Among all cases combined, 65% were white, 24% black, 7% Hispanic and 1% American Indian. Based on period of service, all cases were individuals with service during the Gulf War (1%), Vietnam Era (9%), Korean Conflict (24%), or World War II (56%), with the remainder of cases serving during peacetime (12%) up to and including the Gulf War.

**Conclusions:** This study is the first to report on the occurrence of PD and parkinsonism in this cohort of veterans and provides important information relevant to health care planning and public health considerations.

**ICD-9 Codes for records screened**
- 332.0 — Parkinson's disease
- 332.1 — Secondary parkinsonism
- 331.9 — Cerebral degeneration
- 781.0 — Tremor, NOS
- 334.9 — Spinocerebellar disease, unspecified
- 334.8 — Other spinocerebellar disease
- 333.0 — Other basal ganglia disorders
- 331.89 — Cerebral ataxia
- 344.8 — Other specified paralytic syndromes
- 378.87 — Other dissociated deviation of eye movements
- 356.8 — Supranuclear paralysis
- 094.82 — Syphilitic Parkinsonism

**ICD-9 Codes for final diagnosis**
- 332.0 — Parkinson’s disease
- 332.1 — Secondary parkinsonism
- 333.0 — Other basal ganglia disorders

**Results:**

<table>
<thead>
<tr>
<th>Category/Characteristics</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Race/Ethnicity</td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>363</td>
</tr>
<tr>
<td>Black</td>
<td>59</td>
</tr>
<tr>
<td>Hispanic</td>
<td>128</td>
</tr>
<tr>
<td>Non-parkinsonism</td>
<td>94</td>
</tr>
<tr>
<td>Not eligible</td>
<td>237</td>
</tr>
<tr>
<td>Military service of cases</td>
<td></td>
</tr>
<tr>
<td>Navy</td>
<td>35</td>
</tr>
<tr>
<td>Marine Corps</td>
<td>36</td>
</tr>
<tr>
<td>Air Force</td>
<td>59</td>
</tr>
<tr>
<td>Coast Guard</td>
<td>11</td>
</tr>
<tr>
<td>Peace time service</td>
<td>56</td>
</tr>
<tr>
<td>Total</td>
<td>221</td>
</tr>
</tbody>
</table>

**Conclusions:**

- This is the first study to report on the occurrence of PD and parkinsonism in this cohort of veterans and provides important information relevant to health care planning and public health considerations.

**ICD-9 Code requested from medical records**
- 332.0 — Parkinson’s disease
- 332.1 — Secondary parkinsonism
- 333.0 — Other basal ganglia disorders

**ICD-9 Code for final diagnosis**
- 332.0 — Parkinson’s disease
- 333.0 — Other basal ganglia disorders

**Summary:**

- Of 1,104 eligible patients screened that came to us with a diagnosis of PD, 112 were determined eligible based on having an ICD diagnosis January 1, 1998 - December 31, 2000 and residency in Harris County at the time of diagnosis. Of these, we identified 192 cases of definite Parkinson’s disease or parkinsonism, with the remaining 11 lacking sufficient available information to assign a final diagnosis. It is expected that a number of cases in this latter group may actually be incident cases and should be included in future analyses if further follow-up is possible. We expected with the median age of this population, the majority of the patients served in World War II or the Korean Conflict. 10% of the patients listed period of service during the Vietnam War or Gulf War.

**Conclusions:**

- There was excellent agreement between the ICD code (records screening) and final clinical diagnosis (based on research criteria) for Parkinson’s disease, but less so for secondary parkinsonism. This could have important implications for planning medical records review studies that attempt to ascertain all cases of PD and parkinsonism.

- Differences in demographic and clinical characteristics need to be further elucidated in order to better understand the occurrence of Parkinson’s disease and parkinsonism in the population of veterans.

- Veterans of the Vietnam War, the largest group of veterans who cover it relates to this area, will be an important group to study once the 20 years since they are beginning to reach the age at risk for development of PD and parkinsonism.

**Acknowledgements:**

- This study is funded in part supported by the Office of Research and Development, Medical Research Service, Department of Veterans Affairs.

- We would like to thank the staff at the VA Medical Center Office of Medical Records for their assistance with the compiling of patient lists and chart retrieval.

**Case description form for determining diagnosis for eligible patients who pass screening (2-sided form)**

- Parker’s disease and parkinsonism among Harris County veterans (2-sided form)
- ICD-9 Code for records screened
- Demographics information form (shared separately)
- Screening form for determining eligibility
- Case description form for determining diagnosis for eligible patients who pass screening (2-sided form)