PARKINSON'S DISEASE AND PARKINSONISM AMONG HARRIS COUNTY VETERANS

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Abstract:

Objective: To describe the occurrence of Parkinson's disease (PD) and parkinsonism among veterans in Harris County utilizing the Houston Veteran's Administration Medical Center for the period January 1, 1998 through December 31, 2000.
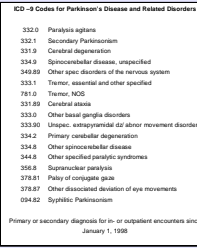
Background: Parkinson's disease is a prevalent disorder with distinct clinical and neuropathological features, although the cause(s) remain largely unknown. This study represents the first to describe the patterns of occurrence of PD in a subset of the veteran population in Harris County.

Methods: Newly diagnosed cases among residents of Harris County were sought from the Houston VA Medical Center. For all eligible patients, information to support a diagnosis of PD or parkinsonism was abstracted from available records.

Results: From the over 1100 individual records screened, 101 cases of parkinsonism have been ascertained for 1998-2000. The median years of 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 peace time (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 subset of the veteran population in Harris County, and will provide important information relevant to clinical practice and health care planning.
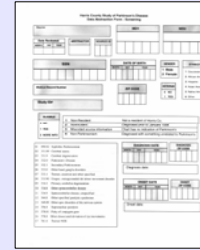
Methods:

Data Abstraction Forms

ICD –9 Codes for Parkinson's Disease and Related Disorders

332.0	Paralysis agitans
332.1	Secondary Parkinsonism
331.9	Cerebral degeneration
334.9	Spinocerebellar disease, unspecified
349.89	Other spec disorders of the nervous system
333.1	Tremor, essential and other specified
781.0	Tremor, NOS
331.89	Cerebral ataxia
333.0	Other basal ganglia disorders
333.90	Unspec. extrapyramidal dzr abnor movement disorder
334.2	Primary cerebellar degeneration
334.8	Other spinocerebellar disease
334.9	Other specified paralytic syndromes
356.8	Supranuclear paralysis
378.81	Palsy of conjugate gaze
378.87	Other dissociated deviation of eye movements
094.82	Syphilitic Parkinsonism

Primary or secondary diagnosis for in- or outpatient encounters since January 1, 1998

ICD codes requested from medical records

Demographics information form (stored separately)

Screening form for determining eligibility

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

Results:

Table 1. Results of screening and characterization of screening ineligibles

Category/Characteristics	Total
Total Screened	**1,104**
Eligible	112 (10%)
Need more information	36 (3%)
Not eligible	956 (87%)
Reason for exclusion	
Non-resident	329 (34%)
Non-incident	434 (45%)
Non-parkinsonism	99 (10%)
Miscoded	94 (10%)
Median Years of Age (Range)	**71 (24-94)**
% Female	**2.5%**
Race/Ethnicity	
White	72%
Black	16%
Hispanic	4%
Asian	0.1%
Missing	7%
ICD-9 Codes for records screened	
331.9 – Cerebral degeneration	1%
332.0—Parkinson's disease	60%
332.1—Secondary parkinsonism	4%
333.0 – Other basal ganglia disorders	1%
333.1—Essential tremor	12%
356.8—Supranuclear paralysis	9%
781.0—Tremor, not otherwise specified	7%
All other codes	6%

Note: 101 assigned a final diagnosis

11 eligible but need more information to assign final dx

Table 2. Incidence of parkinsonism among veterans in Harris County, Cases

Category/Characteristics	Total
All Parkinsonism	**101**
PD	41 (41%)
Drug-induced	24 (24%)
Parkinsonism in dementia	7 (7%)
Parkinsonism unspecified	2 (2%)
Post-traumatic parkinsonism	2 (2%)
Vascular parkinsonism	14 (14%)
PSP	7 (7%)
Shy-Drager	3 (3%)
CBGD	1 (1%)
Median Years of Age (Range)	**74 (37 –90)**
% Female	**3%**
Race/Ethnicity	
White	65%
Black	24%
Hispanic	7%
American Indian	1%
Missing	3%
Case yield by ICD-9 Code	
332.0—Parkinson's disease	87
332.1—Secondary parkinsonism	11
333.0—Other basal ganglia disorders	1
781.0—Tremor, not otherwise specified	2

Table 3. Military service of cases

Category/Characteristics	Total
Branch of Service	
Army	59 (58%)
Navy	23 (23%)
Air Force	12 (12%)
Marine Corps	6 (6%)
Coast Guard	1 (1%)
Period of Service	
World War II	56 (55%)
Korean Conflict	24 (24%)
Vietnam Era	9 (9%)
Gulf War	1 (1%)
Peace time service	11 (11%)

Table 4. Agreement between ICD-9 code and final diagnosis

ICD-9 CM Code	Final Clinical Diagnosis			
	Parkinson's Disease	%	Parkinsonism (Non-PD)	%
All patients				
Parkinson's disease	40	98	16	26
Parkinsonism (non-PD	1		44	73

Summary:

Of 1,104 records on individual patients screened that came to us with a diagnosis of interest, 112 were determined eligible based on having an initial diagnosis January 1, 1998 - December 31, 2000 and residency in Harris County at the time of diagnosis. Of these, we identified 101 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. As expected with the mean age of this population, the majority of the patients served in World War II or the Korean Conflict; 10% of the patients had their period of service during the Vietnam War or Gulf War.

Conclusions:

- First report on the occurrence of parkinsonism in this population

- 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 this population of veterans

- Veterans of the Vietnam War, the largest group of veterans with over 8 million still alive, will be an important group to study over the next 25 years since they are beginning to reach the age at risk for development of PD and parkinsonism