“Common” neurologic disorders

Hirtz et al. estimate the current incidence and prevalence in the United States of 12 neurologic disorders. The authors summarize the strongest evidence available, using data from the United States or from other developed countries when US data were insufficient (see table.).

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Neurologic disease in Ethiopian hospitals

Bower et al. reviewed the records of medical patients in two Ethiopian hospitals. They found that neurologic patients are a substantial proportion of inpatients in Ethiopia. They identified several barriers that needed improvement in order to reduce mortality among Ethiopian patients with neurologic disease.

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Number of people with PD

Dorsey et al. estimate that the number of people with PD in the world's most populous nations will double from 4.1 million in 2005 to 8.7 million in 2030. In 2030, due to demographic changes, 57% of the people with PD in the countries examined will be Chinese (see figure.).

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The editorial by Steven M. Albert notes that given the alarming projections of these three articles, a first question is their accuracy. A second question involves assumptions about stability or change in populations and particularly changes in age structure within populations. A third question involves the distinction between burden based on the absolute number of cases and burden based on the relative mix of severity of disease. A final question is the value of these projections.

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Summary of evidence: Incidence and prevalence of 12 neurologic disorders

Disorder	Class of evidence	Range of ages included (y)	Median estimates				Rate ratio, M/F†	Age(s), y, of peak incidence
			Annual incidence		Prevalence			
			Rate/100,000	No.*	Rate/1,000	No.*		
Autism spectrum disorders	I, II	2–15	—	—	5.8	500,000‡	4.2	—
Cerebral palsy	I, II	3–13	—	—	2.4	207,000‡	1.3	—
Tourette syndrome	II	7–17	—	—	3.5§	301,000	4.8	—
Migraine	I, II	12–65	—	—	121	35,461,000	0.4	—
Epilepsy	I, II	All	48	142,000	7.1	2,098,000	1	<1, ≥80
Multiple sclerosis	I	All	4.2	12,000	0.9	266,000	0.5	30
Traumatic brain injury	I	All	101	298,000	—	—	2.1	20, ≥80
Spinal cord injury	I,II	All	4.5	13,000	—	—	4.2	20
ALS	I, II	All	1.6	5,000	0.04	12,000	1.3	≥60
Stroke	I, II	All	183	541,000	10	2,956,000	1.1	≥80
		≥65	1,093	401,000	—	—	—	
Alzheimer disease	I,II	≥65	1,275	468,000	67	2,459,000	0.5	≥80
Parkinson disease	I,II	≥65	160	59,000	9.5	349,000	1.8	≥70

* Estimated number of cases in United States in 2005, rounded to nearest 1,000.

† Ratio of rates among males to rates among females.

‡ Estimated number of cases among children younger than 21 years of age only.

§ Data inadequate for firm estimate.

HIV dementia is common in a sub-Saharan African HIV clinic

Wong et al. assessed 78 Ugandan HIV+ subjects for HIV dementia. Neuropsychological test results for the HIV+ subjects were compared against normative values from 100 Ugandan HIV- subjects. HIV dementia was found in 31% (24 of 78) of HIV+ subjects.

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The editorial by Brew and González-Scarano notes that the most important fact derived from this study is that there is a high degree of cognitive impairment regardless of whether there may or may not have been confounding conditions other than HIV. Given that, the functional result is clear: there is impairment that at the very least can lead to poor adherence and at worst to disability and death. In fact, poor adherence alone is important, since there is a direct relationship between inadequate levels of antiretroviral drugs and the development of resistance. Failure to recognize cognitive impairment will not only impair individual therapy, but will harm the efforts to control HIV in a community, as cognitively impaired patients are less inhibited and are more likely to engage in HIV-related risk behavior. This may be compounded if the transmitted strains are also resistant to HAART. It is up to the global neurologic community to actively identify and appropriately treat cognitive impairment in patients with HIV disease, and use the early experiential information from the developed countries to expand appropriate HAART to the areas with the highest burden of HIV disease.

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Neuropsychological deficits in frontotemporal dementia

Libon et al. assessed patients with FTD and patients with AD. A principal component analysis accounted for 73% of the variance separating AD from FTD, and distinguished four FTD subgroups. Impairment profiles included memory, working memory, processing speed, lexical retrieval, and semantic factors.

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Subthalamic nucleus stimulation normalizes sensorimotor deficits

Sailer et al. studied how subthalamic nucleus stimulation influences sensorimotor integration as measured by transcranial magnetic stimulation in seven patients with PD. Their findings suggest that subthalamic nucleus stimulation may have a direct effect on reducing the side effects of dopaminergic medication and improve the non-dopaminergic features of PD.

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Cerebral correlates of depression in temporal lobe epilepsy

Gilliam et al. found that extent of *N*-acetylaspartate/creatine abnormality in the hippocampi significantly correlated with severity of depression symptoms in 31 subjects with temporal lobe epilepsy. Other clinical variables, including degree of self-reported disability and seizure frequency, did not correlate with depression.

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Familial influence on clinical expression in MS

Hensiek et al. evaluated 1,083 families with ≥ 2 first-degree relatives with MS for concordance of clinical features. There was no family concordance for eventual disease severity. However, familial factors increase the probability of a progressive clinical course and influence age at onset.

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