Introduction

Movement disorders are neurological motor disorders which manifest with slowness or paucity of movement at one end of the spectrum, and abnormal involuntary movements at the other end [1]. They may be classified into two types of movement: hyperkinetic movement and hypokinetic movement. Hyperkinetic movement disorders are characterized by a significant and excessive amount of motor activity. Hypokinetic movement disorders are those in which there is reduced amount of intentional motor activity.

Hyperkinetic movement disorders are characterized by two types of pattern. It may be rhythmic e.g. tremors, or irregular e.g. tics, chorea, hemiballismus, and myoclonus. The three most common forms are ballismus, choreiform movements, and athetoid movements [2]. Ballismus is most typically seen as hemiballismus because it occurs on one side and it consists of uncontrolled flinging movements of an upper or lower extremity. Choreaiform movements are generalized irregular dance-like movements of the limbs. Finally, athetoid movements are a continuous writhing of distal portions of the extremity [2,3].

The symptoms of hypokinetic movement disorders include a rigid, stone-like face; decreased limb motion during walking; and stiff turning movements. These features are classified as bradykinesia or akinesia. The most common type of hypokinetic movement disorder is Parkinson’s disease, caused by the loss of neurons containing dopamine in the area of the brain called the substantia nigra pars compacta. The loss of these neurons is a part of the alteration of vital motor circuits in the brain that leads to a slowing of intentional movements [2]. Literature states that tremor/rigidity (as a reflection of Parkinson’s disease and related disorders) has become a major symptom among neurological outpatients from the developing countries during the past years [4].

There are also non-motor manifestations seen in Parkinson’s disease (PD) which are now receiving increasing attention in both clinical practice and research. Some common non-motor PD features such as memory disorder, constipation, postural hypotension, and REM sleep disorder may provide a window of opportunity to identify cases of PD in the presymptomatic (non-motor) phase [5].

Information on the nature and relative frequency of diagnoses...
made in referrals to neurology outpatient clinics is an important guide to priorities in services, teaching and research. According to Stone, et al, Parkinson’s disease and movement disorders are among the most common categories referred to neurology clinics [6]. However, most of these movement disorders including Parkinson’s disease still need an improvement to current strategies for treating these symptoms [7]. Because previous studies of this topic have been limited by being of only single centers or lacking in detail, and treatments that provide neuroprotection and/or disease-modifying effects remain an urgent unmet clinical need, our team created a registry of movement disorders to address these concerns.

Methods

Starting April 2014, all patients seen at the Department of Neurology and the Department of Behavioral Medicine both inpatients and outpatients of our institution, presenting with movement disorders, were included in a registry. With consent from these patients, the motor manifestations were documented by recording with a video camera.

All verified movement disorders were registered in our Movement Disorder Registry. The registry was approved by the Institutional Review Boards. Data collected were characterized as to their demographic and clinical profile using a spreadsheet and saving to an external drive. This served as the database. The patterns of movement disorders were then reviewed, and up until this paper was written, the team is continuously listing movement disorder patients.

Discussion

Since this registry was started, it has presented a dynamic pattern of movement disorders. By far, the study team has registered about 41 patients, with a mean age of 51 years for male and 67 years for female. The most commonly seen was Parkinson’s disease (n=29, 70%) followed by dystonia (n=5, 12.1%) including cervical dystonia and a case of X-linked dystonia parkinsonism, hemi chorea (n=3, 7.3%), hemi facial spasm (n=2, 4.8%), tardive dyskinesia secondary to antipsychotic medication (n=1, 2.4%), and tic disorder (n=1, 2.4%). We reviewed other articles from other Asian countries as to the types of movement disorders commonly seen.

Our results are in keeping with a previous study done locally in 2012 at St. Luke’s Medical Center, a private tertiary hospital. They analyzed records of movement disorders in over 7 years in their Movement Disorder Center. A total of 1039 patients were included in their study and it revealed that among pediatric patients, tic is the most common disorder seen while among adults, Parkinson’s was the most common [8]. In our institution, the pediatric department sees patients 12 years old and below, and tics are also commonly seen among these patients.

Muangpaisan et al. 2009, conducted a systematic search of studies published from 1965 to October 2008. The prevalence of Parkinson’s disease in Asian countries was slightly lower than that in Western countries. However, comparison of incidence was difficult because of the small number of studies [9], and methodological differences in gathering data.

Movement disorders associated with infections remain an important debilitating disorder in the Asian countries. In 2014, Jhunjhunwala et al. [10], reported the clinical and imaging profile of a large cohort of patients with movement disorders probably associated with infection. Those movement disorders associated with infection were most often post-encephalitic. Dystonia was the most common presentation [10]. In our institution, we only have encountered one patient with infection of the nervous system responsible for the occurrence of a movement disorder, and it was presented as a case report. The patient was a 36-year-old male diagnosed with HIV presenting with a writhing dance-like pattern of the right extremities [11]. Hemichorea in our institution were mostly secondary to an infarct on the basal ganglia, while dystonia cases were either congenital, or hereditary (e.g. X-linked Dystonia-Parkinsonism).

Movement disorder is still a quite a new subspecialty in the Philippines. While this paper has the potential weakness of having been done in a short time with only a few patients up to date, to our knowledge, there are only 2 institutions known to have a registry of movement disorders in our country, one coming from a private hospital. As a national health institution, we hope to continue this registry so that we could obtain a substantial data for future researches e.g clinical trials on treatment of movement disorders, proper allocation of resources, and development of health campaigns, etc.

With a small data, however, we have not yet established the hospital prevalence and incidence of common movement disorders but continuing the registry will aid us to accomplish this in the future. The highest priority is to characterize the movement disorders and identify the risk factors that may contribute to the onset. Furthermore, understanding these movement disorders can answer their possible natural course.

References

1. Jankovic J, Lang AE (2004) Movement Disorders: Diagnosis and Assessment. Neurology in Clinical Practice. 4th ed. Buttersworth-Heinemann 293-322.
2. Sinscalchi (2012) Post Stroke movement disorders. Clinical Manifestations and Pharmacological Management. Curr Neuropsychol 10: 254-262.
3. Haines, Duane (2006) Fundamental Neuroscience for Basic and Clinical Applications. 3rd edition. Elsevier Inc. Philadelphia, PA, USA.
4. Siddiqi OK, Atadzhanov M, Birbeck GL, Koralnik IJ (2010) The spectrum of neurological disorders in a Zambian tertiary care hospital. J Neurol Sci 290: 1-5.
5. Sakakibara R, Tateno F, Kishi M, Tsuyusaki Y, Terada H, et al. (2014) MIBG myocardial scintigraphy in pre-motor Parkinson’s disease: A review. 3: 267- 273.
6. Stone J, Carson A, Duncan R, Roberts R, Warlow C, et al. (2010) Who is referred to neurology clinics? — The diagnoses made in 3781 new patients. Clin Neurol Neurosurg 112: 747-751.
7. Meissner WG, Frasier M, Gasser T, Goetz CG, Lozano A, et al. (2011) Obeso, Olivier Rascol, Anthony Schapira, Valerie Voon, David M. Weiner, Francois Tison & Erwan Bezard. Priorities in Parkinson’s disease research. Nat Rev Drug Discov 10: 377-393.
8. Jamora, Roland Dominic (2012) Movement Disorders in the Philippines.
9. Muangpaisan W, Hori H, Brayne C (2009) Systematic Review of the Prevalence and Incidence of Parkinson’s Disease in Asia. J Epidemiol 19: 281-293.
10. Jhunjhunwala K, Netravathi M, Kumar PP (2014) Movement disorders of probable infectious origin. Ann Indian Acad Neurol 17:282-7.
11. Medrano, Eva Lyka Paula, Go, Criscely, Gan, Herminigildo (2013) The Last Dance: Movement Disorder in AIDS. JRRMMC unpublished.