How to Diagnose Functional Movement Disorders? First Impressions of Patients Play a Major Role, Surveyed Experts Reveal

BY JAMIE TALAN

One in five movement disorder specialists diagnosed a functional movement disorder based on their first impressions of the patient, while most finalized their diagnosis after a medical history and clinical exam, according to a study that looked at how neurologists assess factors in making their diagnosis.

In an effort to better understand the decision-making process of neurologists who diagnose functional or psychogenic movement disorders, investigators in the Netherlands asked 39 experts from around the world to weigh in on 60 cases — and the findings were quite surprising. Among results, one in five movement disorder specialists diagnosed the disorder based on their first impressions of the patient, while most finalized their diagnosis after a medical history and clinical exam.

Interestingly, most of the neurologists surveyed did not rely on electrophysiological information or neuropsychological testing, according to a new study published in the December 2 online edition of Neurology.

“In general, the experts infrequently changed their differential diagnosis,” said Marina AJ Tijssen, MD, PhD, a neurologist at the University of Groningen and her colleagues. “Importantly, ancillary tests did not determine the final diagnosis of this expert panel.”

Patients with functional movement disorders report a range of involuntary movements — usually tremor, jerking movements, abnormal gait, and imbalance problems. Many neurologists believe that the symptoms are commonly feigned.

“Establishing a diagnosis in clinical practice can be difficult, but it has been shown in many studies that late diagnosis due to diagnostic delay in functional movement disorders (FMD) and other functional neurological symptoms results in a worse prognosis for full recovery,” Dr. Tijssen told Neurology Today. “Therefore, every clinician can learn from the diagnostic process of this expert panel, and this may help to establish the diagnosis of FMD sooner.”

“As can be gathered from our findings, even in very experienced hands, the diagnosis is challenging, and opinions can vary,” Dr. Tijssen said.

STUDY METHODOLOGY, RESULTS
The current study expanded on earlier work done by the investigators, in which they had conducted a web-based survey of experts in movement disorders who reviewed video, clinical history, and auxiliary evaluations, including psychiatric evaluation of patients with hyperkinetic

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movement disorders, to rate inter-rater agreement in the diagnosis. They found only a moderate degree of consensus on the diagnosis, despite the fact that the clinicians had access to the same comprehensive clinical data.

The investigators wanted to analyze the data more closely to focus on the diagnostic process in establishing the diagnosis of hyperkinetic movement disorders and the steps that led to switching from previously reached conclusions.

At each step in the clinical decision-making process, the neurologists could choose to select a diagnosis of a functional movement disorder, myoclonus, or tic disorder. (In the earlier study they had conducted to assess inter-rater diagnostic agreement, they reported that there was moderate agreement for the diagnosis of functional movement disorder, myoclonus, and tics.) And at each step, they were asked whether the information was decisive in arriving at a diagnosis. When the neurologists moved on to the next step in the process, they had the opportunity to change their diagnosis.

After the full evaluation was completed, the authors reported that 18.5 percent of the experts made a diagnosis based on their first impression of the patients; 33 percent of the neurologists said that they based their opinion on the next step, the medical history. The neurological exam accounted for 39.7 percent of the decisions, and only 8 percent of the neurologists thought the findings from the electrophysiological recordings were most useful in arriving at a diagnosis. Less than 1 percent took the psychiatric interview into account when documenting their final diagnosis.

The switches along the way were also revealing. There were 341 diagnostic switches throughout every point in the diagnostic process. The scientists figured out that there were 2,340 possible switch options. Most diagnostic switching happened after the addition of the medical history (34.5 percent). Watching the video of the neurologic examination led another 13.8 percent of the neurologists to switch their diagnosis. The psychiatric evaluation resulted in switches in only 2.7 percent of the cases.

The study authors noted that one limitation of the study is the lack of information on the neurologist’s motives for their responses. “It could be that the non-switching was a result of a lack of added value of the next step information as judged by the experts, or the consequence of the fact that current diagnosis was strengthened by the added information. Future studies should therefore investigate this aspect in the decision-making process as well.”

“Because the inter-rater agreement was moderate and opinions of the expert panel differed, we think that the honest answer is that there can be no ‘right’ diagnosis in some of the challenging cases of our cohort,” said Dr. Tijssen.

**EXPERTS WEIGH IN**

“There is no gold standard in diagnosing functional movement disorders. And that is why the paper is so interesting. It is a sober assessment of the diagnosis of FMD,” said Peter Hedera, MD, PhD, associate professor of neurology at Vanderbilt University Medical Center, who authored the accompanying editorial on the study with Antonio Gambardella, MD, from the Institute of Neurology at University Magna Graecia in Italy.

Joseph Jankovic, MD, FAAN, professor of neurology at Baylor College of Medicine, said that the study is an important one in this field.

**DR. MARINA AJ TIJSSEN:**

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Medicine and director of the Parkinson’s Disease Center and Movement Disorders Clinic in Houston, who was one of the experts who participated in the survey, said the findings confirmed what he already knew. “The diagnosis of FMD cannot be made by any imaging or neurophysiologic tests, although they may provide supportive information,” he said. “The diagnosis relies on careful history and examination by an experienced movement disorders specialist, who often suspects the diagnosis immediately at the initial encounter.”

He added: “One issue that might contribute to the results in both studies is the fact that it was not based on an in-person examination but a web-based survey. The inability to personally interview and examine the patients may have influenced the results of both studies.”

“Functional Movement Disorders can be helpful in unraveling some of the psychodynamic factors and helping the patient understand the role of stress in causation or exacerbation of the FMD, they should not be called up to make the diagnosis. This is the responsibility of a movement disorder specialist.”

Dr. Jankovic pointed out that although the Diagnostic and Statistical Manual-5 (DSM-5) no longer requires identifiable psychological etiology as a prerequisite for the diagnosis of FMD, nearly all patients with FMD have some underlying psychological issues, even though this may or may not be easy to uncover, particularly during the initial visit, and sometimes additional visits are needed to better understand possible underlying mechanisms.

“I often see patients who initially deny any stressors as precipitants of their FMD, but later I find important conflicts or other stress factors that were likely relevant as triggers of the FMD,” Dr. Jankovic said.

“A diagnosis of FMD must be one of exclusion, which means spending enough time with the patient to consider all possibilities and to demonstrate the serious obligation to make no pejorative assumptions about underlying psychiatric mechanisms,” said Howard I. Hurtig, MD, the Elliott professor of neurology, emeritus and former chief of neurology and co-director of the Parkinson Disease and Movement Disorders Center at the Perelman School of Medicine at the University of Pennsylvania.

“It’s an important study,” which speaks to the challenges of establishing a diagnosis, said Martin A. Samuels, MD, FAAN, chair of the department of neurology at Brigham and Women’s Hospital and the Miriam Sydney Joseph professor of neurology at Harvard Medical School.

Once neurologists have an initial impression, “they become fixed or anchored in their thinking. It is difficult to change their mind,” he said. “These shortcuts are unconscious methods of reacting to a situation. We have a tendency to fall in love with our own ideas.”

Thomas Swift, MD, FAAN, professor emeritus of neurology at Medical College of Georgia in Augusta, said that “neurologists make a lot of instantaneous judgments.” He said that he is often right on his first impressions, although he admits that he once diagnosed functional movement disorder when the patient actually had Creutzfeldt-Jakob disease.

Dr. Swift said that it is not difficult to recognize symptoms of an organic movement disorder. He cited the case of a patient who was referred to him with complaints of numbness, and who had been in a wheelchair for a decade. He got her to stand up, then walk and finally run, but she got right back in her wheelchair at the end of the exam. “Telling her the weakness was not real did no good,” he said.

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