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CME Objectives
After completing this CME activity, the psychiatrist should be able to:
- Review differences in phenotype between tic-related and non-tic-related OCD.
- Assess patients with OCD and Tourette's disorder for the presence of sensory phenomena.

Statement of Need and Purpose
Clinical research has documented a bidirectional overlap between Tourette's disorder and obsessive-compulsive disorder (OCD) from familial-genetic, phenomenological, cormorbidity, and natural history perspectives. Studies of Tourette's patients have reported an increased rate of obsessive-compulsive symptoms and OCD, and studies of OCD patients have reported an increased rate of motor tics and Tourette's disorder. This activity was designed to meet the needs of physicians responding to surveys in the *Journal* and related activities who have requested information on the diagnosis and treatment of these disorders. There are no prerequisites for this activity.

Accreditation Statement
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Faculty Disclosure
In the spirit of full disclosure and in compliance with all ACCME Essentials, Standards, and Guidelines, all faculty for this CME activity were asked to complete a full disclosure statement. The information received is as follows:

Dr. Jenike has received research grant support from Pfizer Inc.

At the time the research was conducted, Dr. O'Sullivan was a member of the speaker's bureau for SmithKline Beecham Pharmaceuticals, Wyeth-Ayerst Laboratories, and Solvay Pharmaceuticals, Inc., and received research grant support from Wyeth-Ayerst Laboratories and Solvay Pharmaceuticals, Inc.

Drs. Miguel, Rosário-Campos, da Silva Prado, Valle, Rauch, Coffey, Baer, Savage, and Leckman have no significant commercial relationships to disclose relative to the presentation.

Sensory Phenomena in Obsessive-Compulsive Disorder and Tourette's Disorder

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Background: Recent studies have suggested that obsessive-compulsive disorder (OCD) is a heterogeneous disorder with some forms related to tics and Tourette's disorder. The present study was undertaken to investigate the sensory phenomena in patients with OCD and/or Tourette's disorder to determine if these phenotypic features represent valid clinical indices for differentiating tic-related OCD from non–tic-related OCD.

Method: We evaluated 20 adult outpatients with OCD, 20 with OCD plus Tourette's disorder, and 21 with Tourette's disorder, using a semistructured interview designed to assess several definitions of sensory phenomena reported in the literature. DSM-III-R criteria were used for the OCD and Tourette's disorder diagnoses.

Results: Sensory phenomena including bodily sensations, mental urges, and a sense of inner tension were significantly more frequent in the 2 Tourette's disorder groups when compared with the OCD alone group. Feelings of incompleteness and a need for things to be "just right" were reported more frequently in the OCD plus Tourette's disorder group compared with the other 2 groups.

Conclusion: Sensory phenomena may be an important phenotypic measure for grouping patients along the OCD-Tourette's disorder spectrum. Sensory phenomena include bodily and mental sensations. Bodily sensations include focal or generalized body sensations (usually tactile, muscular-skeletal/visceral, or both) occurring either before or during the patient's performance of the repetitive behaviors. These sensations are more frequently found in patients with OCD plus Tourette's disorder than in patients with OCD alone. Mental sensations include urge only, energy release (mental energy that builds up and needs to be discharged), incompleteness, and just-right perceptions. They are all more frequently found in patients with OCD plus Tourette's disorder than in patients with OCD alone.

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Obsessive-compulsive disorder (OCD) and Tourette's disorder are heterogeneous disorders that share some common characteristics. For instance, genetic studies have found that at least a subgroup of OCD patients is genetically related to Tourette's disorder.[1–3] Neuroimaging studies have demonstrated that the basal ganglia and cortico-striato-thalamal circuits are implicated in the pathophysiology of both disorders.[4–8] Nevertheless, patients with OCD plus Tourette's disorder seem to respond differently to treatment compared with patients with OCD alone. Such OCD plus Tourette's disorder patients often benefit from combined therapy with serotonin reuptake inhibitors and neuroleptics, whereas those without tics or Tourette's disorder do not improve further when neuroleptics are added.[9,10] Such variability in outcome has led to phenomenological studies searching for homogeneous OCD subgroups that may predict treatment response. So far, the best-studied subgroup has been tic-related OCD.

Phenotypic differences between tic-related and non–tic-related OCD include an earlier age at onset, male predominance, and higher frequency of tic-like compulsions, such as the need to touch, tap, or rub items and blinking or staring rituals, in the tic-related OCD group.[11–15] Other distinguishing phenotypic features include subjective experiences such as the sensory phenomena reported by OCD and Tourette's disorder patients preceding their tics and/or compulsions. Earlier studies have reported that the patients with tic-related OCD are more likely to experience sensory phenomena preceding or accompanying their repetitive behaviors when compared with patients with non–tic-related OCD.[16]

First described in Tourette's disorder patients,[17] *sensory phenomena* is a comprehensive term, inconsistently defined in the literature and explained in different ways according to different authors.[18–23] For instance, Leckman et al.[21] defined premonitory urges as bodily sensations, experienced as being either a "physical" phenomenon or "somewhere in between physical and mental." The same authors have also described "just-right perceptions," which were conceptualized as the need that some patients have to perform their tics and compulsions until they felt "just right."[22] Recently, the Tourette Syndrome Classification Study Group defined sensory phenomena as "generalized or focal uncomfortable feelings or sensations preceding tics that usually are relieved by a movement."[24(p1016)] There are still other studies defining and investigating sensory phenomena (see Scahill et al.[25] for a detailed review).

The investigation of sensory phenomena is warranted because (1) some patients with both Tourette's disorder and OCD report that these phenomena may cause more distress than the tics and compulsions per se,[20] (2) their presence can enhance the patient's ability to suppress tics,[20,26] (3) pharmacologic treatment can alter these sensations,[21] and (4) they may predict treatment response. For example, Shavitt et al.[27] found that the presence of sensory phenomena in patients with OCD predicted poorer response to clomipramine.

Therefore, the present study was undertaken to extend all of the above descriptions of sensory phenomena in patients with OCD and/or Tourette's disorder to determine if these phenotypic features represent clinical indices for differentiating tic-related OCD from non–tic-related OCD patients. Our main hypothesis was that subjective experiences associated with bodily sensations and generalized feelings of inner tension are more frequent in both Tourette's disorder and OCD plus Tourette's disorder patients compared with OCD without tics patients.

METHOD

Subjects

Detailed methodology used in this study has been presented elsewhere.[16,28] Briefly, 20 patients with OCD without tics or Tourette's disorder (OCD group), 21 Tourette's disorder patients without OCD (Tourette's disorder group), and 20 patients with both OCD and Tourette's disorder (OCD plus Tourette's disorder group) were evaluated. They were recruited from the Massachusetts General Hospital OCD Clinic and Research Unit (Boston, Mass.), the McLean Tourette's Clinic (Belmont, Mass.), and the Boston, Mass., chapter of the Tourette Syndrome Association. All were adult (> 17 years) outpatients. Subjects were excluded if they had history of a systemic medical illness or documented neurologic disorder (e.g., seizures, movement disorders unrelated to tic disorder), were psychotic, or had suicide risk at the time of the assessment.[16] All patients gave written informed consent.

Demographic and Clinical Comparisons

The 3 groups did not differ significantly on sociodemographic characteristics including age, gender, education, and illness duration (Table 1).

Evaluation Procedures

All subjects met DSM-III-R[29] criteria for OCD, Tourette's disorder, or both. Two psychiatrists (E.C.M., B.J.C., R.L.O., or M.A.J.) confirmed all diagnoses. Subjects were evaluated using the Structured Clinical Interview for DSM-III-R (SCID).[30] Subjects also completed the following standardized rating scales: the Yale-Brown Obsessive Compulsive Scale (Y-BOCS),[31,32] the Yale Global Tic Severity Scale (YGTSS),[33] the Beck Depression Inventory (BDI),[34] and the Beck Anxiety Inventory (BAI).[35] Reliability between raters was excellent for the SCID (mean κ coefficient for all SCID diagnoses between E.C.M. and R.L.O. = 0.98 and between E.C.M. and B.J.C. = 0.94).

All repetitive behaviors listed on the symptom checklists from the Y-BOCS[32] and from the YGTSS[33] were rated for each patient. These behaviors were subsequently the focus of a semistructured phenomenological interview, the USP-Harvard Repetitive Behaviors Interview.[28] This instrument was specially developed for assessing sensory, cognitive, and autonomic phenomena related to tics, compulsions, and other stereotyped repetitive behaviors by asking patients to identify which phenomena precede or accompany each of the repetitive behaviors. Questions try to help patients describe these phenomena

Table 1. Demographics and Rating Scale Scores[a]

	OCD (N = 20)				OCD plus Tourette's Disorder (N = 20)				Tourette's Disorder (N = 21)				Analyses		
Variable	N	%	Mean	SD	N	%	Mean	SD	N	%	Mean	SD	F(df = 2,58)	χ^2(df = 2)	p
Demographic data															
Male	12	60			12	60			13	62				0.021	.99
Female	8	40			8	40			8	38					
Education (y)			15.9	2.6			14.8	2.5			14.9	3.2	0.90		.41
Age (y)			36.0	10.3			29.7	8.8			30.1	11.5	2.33		.11
Age at onset (y)			11.4[b,c]	6.8			7.0	2.5			7.4	2.2	6.23		.004
Illness duration (y)			24.6	11.3			22.1	7.9			22.7	11.0	0.34		.71
Scales															
YGTSS			0[b,c]	0			47.2	16.5			48.4	19.5	69.80		< .001
Y-BOCS			20.0[c]	6.1			22.0[c]	5.7			4.1	5.0	63.12		< .001
BDI			11.7	7.7			16.1	13.3			8.3	8.2	3.04		.06
BAI			11.3	7.5			10.8	9.9			6.9	7.9	1.87		.16

[a]Abbreviations: BAI = Beck Anxiety Inventory, BDI = Beck Depression Inventory, OCD = obsessive-compulsive disorder, Y-BOCS = Yale-Brown Obsessive Compulsive Scale, YGTSS = Yale Global Tic Severity Scale.
[b]Significant vs. OCD plus Tourette's disorder group.
[c]Significant vs. Tourette's disorder group.

in detail and rate them on frequency and severity scales from 0 (none) to 4 (always or extreme, respectively). Using this instrument, we studied all reported repetitive behaviors, including behaviors performed intentionally (i.e., when the patient mentally determines the need to perform the repetitive behavior) and those performed unintentionally (such as simple and involuntary motor and vocal tics). The severity of cognitive phenomena (i.e., thoughts, ideas, or images) was measured based on intensity of associated fears. Autonomic anxiety was rated as present when at least 3 of the following symptoms were reported to precede repetitive behaviors or were present when the behavior was prevented: dry mouth, sweating, flushes or chills, dizziness, raising of hair, palpitations or accelerated heart rate, difficulty breathing, trembling or shaking, choking, nausea or abdominal distress, numbness or tingling sensations, and trouble swallowing or a "lump in throat." Sensory phenomena definitions are described below. Reliability between raters was excellent for the USP-Harvard Repetitive Behaviors Interview (mean Spearman coefficient of all scores between E.C.M. and B.J.C. = 0.98 and between E.C.M. and R.L.O. = 0.99).

Definitions of Sensory Phenomena

Because this study focused on the patients' sensory phenomena, we first reviewed these different descriptions and then grouped them into 2 subgroups, bodily and mental sensations, as follows:

Bodily sensations: focal or generalized body sensations occurring before the patient performed the repetitive behaviors. These were further divided into categories:

1. Tactile: sensation on the skin. For example, one patient explained, "I use lip balm 20 times a day to relieve a sensation of dryness in my lips."
2. Muscular-skeletal or visceral: sensation in the muscles, bones, or viscera. Another patient described, "When I eat, I feel my stomach extending and it bothers me. I have a strange sensation in it, and I have to check several times how it looks to get rid of this uncomfortable sensation."
3. Both 1 and 2.

Mental sensations: general, uncomfortable feelings or perceptions occurring before or while the patient performs the repetitive behaviors. These were further divided into categories:

1. Urge only: a drive to perform the repetitive behaviors; a force or impulse without any obsession, fear, worry, or bodily sensation. One patient reported, "I do not know why I have to check the door locks. I do not have any bad thought, image, or fear. I just 'have to' come back and check them over and over again."
2. Energy release: a general (nonfocal) feeling of an inner tension or pressure; a mental energy that builds up and needs to be discharged. One patient related, "I feel a mental tension building up if I do not check my closets . . . it is not a physical sensation, I feel an energy in my mind . . . I have to check in order to relieve this tension."

3. Incompleteness: an inner sense of incompleteness, imperfection, or insufficiency; a subjective feeling of discomfort (based on Janet's descriptions of psychasthenia).[22,36] A patient described: "Worse than the obsessions is the feeling that there is always something missing of myself. Very rarely I get rid of this awful feeling that I am not complete, that I need to do something in order to fulfill myself."
4. Just-right perceptions: the general feeling or perception of not being just right and performing the behaviors until achieving this just-right feeling. For many patients, these perceptions were specifically associated with sensory modalities (i.e., how things specifically look, feel, or sound[22]). One patient said, "It takes me hours to get dressed because things must feel and look just right. I dress and redress, over and over again, or even change outfits many times until they feel right, and I think they look right on me."

Statistical Analysis

Statistical comparisons were carried out via analyses of variance (ANOVA), independent t tests, and contingency table analysis by chi-square or the Fisher exact test. Kappa coefficient for agreement among raters and Spearman correlation coefficient were used to assess interrater reliability. A 2-tailed alpha level of .05 was used throughout.

RESULTS

Consistent with our primary hypothesis, the OCD group reported sensory phenomena preceding their repetitive behaviors less frequently than the Tourette's disorder and the OCD plus Tourette's disorder groups ($\chi^2 = 26.70$, df = 2, $p < .001$). These sensory phenomena can be divided into bodily and mental sensations.

Bodily Sensations

When analyzing bodily sensations (e.g., an itch, tickle, or burning sensation) associated with repetitive behaviors, we found that they were significantly more frequent in the OCD plus Tourette's disorder and the Tourette's disorder groups when compared with the OCD group ($\chi^2 = 19.93$, df = 2, $p < .001$) (Table 2).

For each type of bodily sensation, the OCD group reported significantly fewer tactile and no muscular-skeletal/visceral sensations when compared with the Tourette's disorder and OCD plus Tourette's disorder groups ($\chi^2 = 8.62$, df = 2, p = .01 for tactile; $\chi^2 = 18.17$, df = 2, $p < .001$ for muscular-skeletal/visceral; and $\chi^2 = 8.31$, df = 2, p = .01 for both) (see Table 2).

Table 2. Frequency of Sensory Phenomena in OCD, Tourette's Disorder, and OCD plus Tourette's Disorder Patients

	OCD N = 20		OCD plus TD N = 20		TD N = 21		
Sensory Phenomenon	N	%	N	%	N	%	p Value
All sensory phenomena	8	40	20	100	20	95	< .001
Bodily sensations	3[a]	15	17[b]	85	9	43	< .001
Tactile	3[a]	15	12	60	9	43	.013
Muscular-skeletal/ visceral	0	0	12	60	5	24	< .001
Both	0	0	7	35	4	19	.01
Mental sensations	8[a,b]	40	20	100	20	95	< .001
Urge only	1[a,b]	5	11	55	11	52	.001
Energy release	1[a,b]	5	8	40	10	48	.007
Incompleteness	1[a]	5	10[b]	50	4	19	.003
All just right	7[a]	35	18[b]	90	10	48	.001
Only just right	3[a]	15	8[b]	40	2	9	.04
Visual just right	5[a]	25	13[b]	65	6	29	.01
Tactile just right	1	5	4	20	4	19	.3
Auditory just right	0	0	2	10	1	5	.3
More than 1	3[a,b]	15	19	95	12	57	< .001
Bodily tactile plus tactile just right	3[a,b]	15	12	60	11	52	.009

[a]Significant vs. OCD plus Tourette's disorder group.
[b]Significant vs. Tourette's disorder group.

Mental Sensations

Mental sensations were reported more frequently in the OCD plus Tourette's disorder and Tourette's disorder groups compared with the OCD group ($\chi^2 = 26.70$, df = 2, $p < .001$) (see Table 2).

The analyses of mental sensation subtypes were as follows (see Table 2):

Urge only. Compared with the OCD group, more patients in the Tourette's disorder and OCD plus Tourette's disorder groups reported at least 1 repetitive behavior preceded only by an urge ($\chi^2 = 13.58$, df = 2, p = .001).

Energy release. Compared with the OCD group, more patients in the Tourette's disorder and OCD plus Tourette's disorder groups reported at least 1 repetitive behavior preceded by the feeling of inner tension or energy buildup that needed to be discharged ($\chi^2 = 9.76$, df = 2, p = .007).

Incompleteness. Compared with the OCD and Tourette's disorder groups, more patients in the OCD plus Tourette's disorder group reported repetitive behaviors preceded by feelings of incompleteness, frustration, and/or discomfort ($\chi^2 = 11.45$, df = 2, p = .003).

Just-right perceptions. Compared with the OCD and Tourette's disorder groups, more patients in the OCD plus

Tourette's disorder group reported repetitive behaviors preceded by feelings of not being just right ($\chi^2 = 13.62$, df = 2, p = .001). The analyses of the just-right phenomena subtypes by group was as follows (see Table 2):

1. Only just right. Compared with the OCD and Tourette's disorder groups, more patients in the OCD plus Tourette's disorder patients reported performing their behaviors until they were just right, without an association with a specific sensory mode ($\chi^2 = 6.38$, df = 2, p = .04).
2. Visual just right. Compared with the OCD and Tourette's disorder groups, more patients in the OCD plus Tourette's disorder group reported compulsions preceded by a mental awareness that something did not look just right ($\chi^2 = 8.26$, df = 2, p = .01).
3. Tactile just right. Four Tourette's disorder patients, 4 OCD plus Tourette's disorder patients, and 1 OCD patient reported doing the repetitive behaviors until achieving a specific tactile sensation that made them feel just right ($\chi^2 = 2.26$, df = 2, p = NS).
4. Auditory just right. Only 2 OCD plus Tourette's disorder patients and 1 Tourette's disorder patient reported performing repetitive behaviors until they heard a tone or noise that sounded just right ($\chi^2 = 2.14$, df = 2, p = NS).

DISCUSSION

OCD and Tourette's disorder are disorders currently diagnosed according to the presence of obsessions and/or compulsions (OCD) or vocal and motor tics (Tourette's disorder), respectively. However, a variety of subjective experiences associated with these core symptoms have been described; in many cases these experiences are responsible for significant psychosocial distress. Further, some investigators have argued that the presence of sensory phenomena may be a negative predictor of treatment response in OCD patients.[27] These phenomena, however, have been inconsistently defined and underexplored in the literature. This study attempts to reconcile various conceptualizations of sensory phenomena in the literature and to investigate their presence in patients with OCD and/or Tourette's disorder.

Most kinds of sensory phenomena were more frequent in the 2 Tourette's disorder groups (OCD plus Tourette's disorder and Tourette's disorder only) when compared with the OCD group. These differences were even more striking when we compared bodily sensations (both tactile and muscular-skeletal/visceral) and the less complex mental sensations such as urge only and/or energy release. The need to perform the behavior until feeling just right was reported in 90% of the OCD plus Tourette's disorder group compared with 48% of the Tourette's disorder group and 35% of the OCD group. Feelings of incompleteness were even more distinctive of the OCD plus Tourette's disorder group.

These results replicate previous findings concerning the report of sensory phenomena more frequently preceding repetitive behaviors in tic-related OCD.[15,20–22] Our data are also congruent with those reported by Leckman et al.[22] in which just-right perceptions were found more frequently in OCD plus Tourette's disorder patients compared with Tourette's disorder patients without OCD. In contrast, our data concerning sensory phenomena in OCD patients appear to be at variance with those reported by Leckman et al.[15] in which the presence of such phenomena did not distinguish between patients with tic-related OCD and patients with non–tic-related OCD. These differences may reflect variations in the study populations and/or the methods used for data collection. Previous studies used self-report questionnaires, whereas an experienced psychiatrist interviewed all of our patients. In addition, the sample from Leckman and colleagues[15] included patients with tics and/or Tourette's disorder, whereas in our sample, the 41 individuals had Tourette's disorder.[15,22]

The dimensions studied reflect contemporary models suggesting that both OCD and Tourette's disorder involve dysfunction in corticostriatal pathways.[37–40] As recently delineated, there exist several parallel, partially segregated, corticostriatal pathways, each channeling different types of information.[41] These include a prefrontal circuit via the caudate nucleus mediating cognitive functions, a sensorimotor circuit via the putamen mediating bodily sensations and purposeful movements, and a limbic circuit via the ventral striatum (i.e., nucleus accumbens) mediating affect and motivation. It has been hypothesized that the phenotypic presentation along the OCD-Tourette's disorder spectrum reflects the topography of dysfunction within the striatum.[37,38] Thus, we speculate that the phenomenological dimensions used in the current study, notably the bodily sensations and mental sensations (from simple urges to just-right perceptions and thoughts) may represent a continuum of abnormal subjective experiences that parallel the proposed dysfunction in different corticostriatal pathways within the striatum.

This study has some methodological limitations, which are important to appreciate. First, the majority of the pa-

tients were recruited via specialized clinics, posing a risk that the cohort studied was not representative of a more general community-based sample. Second, all interviews were conducted by a clinician that was not blind to the patient diagnosis. Although one third of the sample was seen simultaneously by another psychiatrist, with excellent reliability, this does not preclude the risk of rater bias. Third, ascertainment regarding symptoms was primarily retrospective and necessarily based on subjective patient reports. Finally, difficulties in finding accurate words to describe their subjective mental states were frequently reported by patients, which represent another inherent limitation. Our effort to offer clear categories of dysfunction is a necessary first step, but inevitably these terms and phrasing do not capture the entire experience. Moreover, for some patients the experience seems "in between" some of the categories, not quite one or the other.

In summary, this study provides a useful clinical framework for the characterization of phenotypic characteristics of repetitive behaviors in OCD and Tourette's disorder. Furthermore, it offers a conceptual organization of various definitions of the term *sensory phenomena*. Specifically, bodily and mental sensations preceding repetitive behaviors in these patients may be valid and reliable phenotypic measures for grouping patients along the OCD-Tourette's disorder spectrum. It is worthwhile to mention that, in this article, we excluded from the definition of mental sensations the cognitive phenomena or obsessive worries (thoughts, image, or ideas) that were reported more frequently in the OCD groups.[16]

Finally, additional research characterizing subjective experiences associated with repetitive behaviors in the context of treatment trials, neuroimaging, and family-genetic studies will be necessary to determine whether this scheme can provide valid and reliable indicators of pathophysiology, prognosis, or treatment response. Therefore, new evaluation procedures for OCD and Tourette's disorder that encompass sensory phenomena definitions should be developed and tested for reliability and validity.

Drug name: clomipramine (Anafranil and others).

Disclosure of off-label usage: The authors have determined that, to the best of their knowledge, no investigational information about pharmaceutical agents has been presented in this article that is outside U.S. Food and Drug Administration–approved labeling.

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Instructions

Physicians may receive up to 1 hour of Category 1 credit toward the American Medical Association Physician's Recognition Award by reading the article starting on page 150 and correctly answering at least 70% of the questions in the posttest that follows.

1. Read each question carefully and circle the correct corresponding answer on the Registration form.
2. Type or print your full name and address and Social Security, phone, and fax numbers in the spaces provided.
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1. All of the following are true, except:
   a. Tics and compulsions are examples of repetitive behaviors.
   b. One type of repetitive behavior may not be preceded by different kinds of subjective experiences.
   c. *Cognitive phenomena* was defined according to the DSM-IV description of obsessions. Therefore, examples of cognitive phenomena are thoughts, ideas, images, fears, worries, or concerns.
   d. Cognitive phenomena, autonomic anxiety, and sensory phenomena are examples of subjective experiences that may precede, accompany, or trigger or be the reason for doing tics and/or compulsions.

2. About sensory phenomena, the following statement is true:
   a. Sensory phenomena are not significantly different according to sociodemographic characteristics, including age, sex, education, and socioeconomic status.
   b. Sensory phenomena are more frequently found in women because, compared with men, they have an earlier onset of OCD.
   c. Sensory phenomena are more frequently found in women because, compared with men, they have a later onset of OCD.
   d. Sensory phenomena are more frequently found in women because, compared with men, they are more sensitive.

3. The term *sensory phenomena* refers to the following:
   a. Images of something bad or terrible that may happen to the patient or to someone close to him/her
   b. A kind of obsessive-compulsive symptom
   c. Bodily or mental sensations, feelings, and/or perceptions that may precede or accompany obsessive-compulsive symptoms and/or tics
   d. One or more symptoms affecting voluntary motor function initiated or exacerbated by conflicts or other stressors

4. All of the following sentences are true about the importance of assessing sensory phenomena in patients with OCD and Tourette's disorder, except:
   a. Sensory phenomena may help in the early diagnosis of OCD and/or Tourette's disorder because they normally start before the compulsions.
   b. Pharmacologic treatment can alter these phenomena
   c. Some patients with both Tourette's disorder and OCD report that these phenomena may cause more distress than the tics and compulsions per se.
   d. The presence of sensory phenomena may enhance the patient's ability to suppress tics and compulsions.

5. All of the following are descriptions of mental kinds of sensory phenomena that may precede or accompany OCD and/or tics, except:
   a. A general feeling of an inner tension or pressure building up and causing discomfort
   b. An inner sense of incompleteness, imperfection, insufficiency, or discomfort
   c. The general feeling or perception of not being "just-right" and performing the behaviors until achieving this "just-right" feeling
   d. A feeling of dizziness or the sensation of fainting

6. Descriptions of sensory phenomena were first reported in patients with the following:
   a. Obsessive-compulsive disorder (OCD)
   b. Dissociative disorders
   c. Tourette's disorder
   d. Schizophrenia

7. All of the following are false, except:
   a. After many years, the Tourette Syndrome Classification Study Group has finally unified all the different descriptions of sensory phenomena in the literature so far.
   b. *Sensory phenomena* is a comprehensive term, inconsistently defined in the literature, explained in different ways according to different authors.
   c. Some kinds of sensory phenomena are also frequently related by schizophrenic patients that present with hallucinations.
   d. Sensory phenomena do not cause distress to the patient.

Answers to the August 1999 CME posttest

1. d 2. b 3. c 4. d 5. a 6. c 7. a

Circle the one correct answer for each question.

1.	a	b	c	d
2.	a	b	c	d
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   B. Enabled me to assess patients with OCD and Tourette's disorder for the presence of sensory phenomena. ❑ Yes ❑ No
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