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Conversion, Factitious Disorder and Malingering: A Distinct Pattern or a Continuum?

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Abstract

This chapter is aimed at highlighting the recent findings concerning physiopathology, diagnosis, and management of conversion, factitious disorder, and malingering. Conversion disorder is the unintentional production of neurological symptom, whereas malingering and factitious disorder represent the voluntary production of symptoms with internal or external incentives. They have a close history and this has been frequently confounded. Practitioners are often confronted to medically unexplained symptoms; they represent almost 30% of neurologist's consultation. The first challenge is to detect them, and recent studies have confirmed the importance of "positive" clinical bedside signs based on incoherence and discordance, such as the Hoover's sign for the diagnosis of conversion disorder. Functional neuroimaging has allowed a better understanding of the pathophysiology, and highlighted abnormal cerebral activation patterns in conversion disorder in relation to motor, emotional, and limbic networks, different from feigners. This supports the theory evoked by Charcot of a "psychodynamic lesion," which is also reflected by the new term introduced in the DSM-5: functional neurological disorder. Multidisciplinary therapy is recommended with behavioral cognitive therapy, antidepressant to treat frequent comorbid anxiety or depression, and physiotherapy. Factitious disorder and malingering should be clearly delineated from conversion disorder. Factitious disorder should be considered as a mental illness and more research on its physiopathology and treatment is needed, when malingering is a non-medical condition encountered in medico-legal cases.

Introduction

Conversion, factitious disorder, and malingering are clinical challenges, each presenting characteristics that are difficult for a practitioner to understand. Furthermore, the concept of conversion has evolved a lot in the last decades, as reflected by changes in terminology and based on recent neuroimaging findings.

According to the DSM-5, conversion disorder is also called functional neurological disorder [1]. It is defined as symptoms of altered voluntary motor or sensory function that cause clinically significant distress or impairment, and the presence of clinical findings supporting incompatibility between symptoms and neurological or medical conditions. Conversion disorder is classified in somatic symptoms, formerly called somatoform disorders. In the international classification of diseases-10, it is included in the chapter "dissociative disorders" alluding to a different pathophysiological mechanism. The clinical manifestation is very broad and symptoms can take the form of sensorimotor deficit, abnormal movements, non-epileptic seizure, gait disorder or even sensorial deficit, such as blindness or deafness.

In factitious disorder, patients deliberately produce, feign, or exaggerate physical and/or psychological symptoms on themselves or someone else without benefits except the medical condition itself. When behavior is motivated by external incentives such as avoiding military duty, work, or obtaining financial compensation, the appropriate term is malingering. In fact, objective evidence of malingering or factitious disorder is rare and difficult to obtain, so much that criterion C in conversion disorder: "the symptom or deficit is not intentionally produced or feigned" was removed from the DSM-5 [1]. Boundaries could be unclear, and considering malingering as medical illness or normal behavior is still a debate. In this chapter, we will expose the differences and commonalities between conversion, factitious disorder, and malingering and discuss whether they should be considered as part of a continuum.

Historical Aspects

History of conversion, factitious disorder, and malingering was closely related and sometime even confounded. In 1835, Hector Gavin (1815–1855) was the first to describe illness deception to "obtain the ease and comfort of a hospital" and the "avoidance of duties," and he was the first to use the term "factitious disorder." [2] Later in 19th century, Jean Martin Charcot (1825–1893) developed the theory of hysteria and the concept of a cerebral "psychodynamic" lesion responsible for the symptom, unrecognizable in a macroscopic way. This will be challenged by his preferred student: Joseph Babinski (1857–1932). He proposed the concept of "pithiatism" for hysteria, in which patients were unconscious simulators, and he described clinical signs to differentiate organic and hysteric hemiplegia, such as plantar cutaneous reflex or platysma sign or trunk thigh test (Fig. 1) [3]. According to him, persuasion could be a

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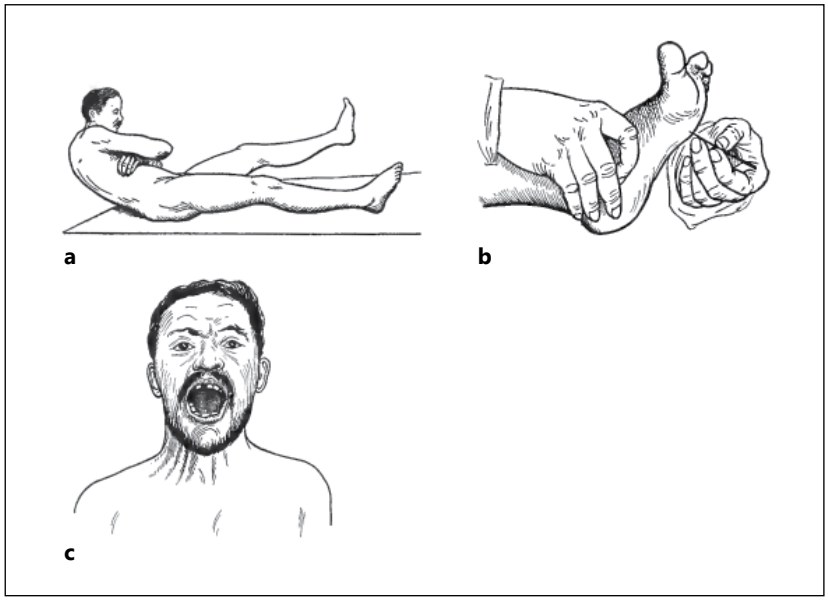

Fig. 1. a Babinski trunk thigh test: patient has to sit up from the supine position with cross arms on the chest. In organic paresis, the paretic limb raises and the contralateral shoulder comes forward, but not in conversive paresis. **b** Plantar cutaneous reflex: in case of injury of the corticospinal tract, stimulation of the foot's sole causes a dorsiflexion of the big toe. **c** Platysma sign: patient opens the mouth wide or flexes the chin against resistance. In case of organic paresis, there is an asymmetry but not in conversive paresis. From Babinski and Froment (1917).

treatment and it will lead to many abusive "therapies." During World War I, various methods were developed to get soldiers back to the field. In particular, a French neurologist Clovis Vincent (1879–1947) and later Gustave Roussy (1874–1948) used electric shock in a method called "Torpillage," which is now considered as torture [4]. Furthermore, these techniques were employed in malingering, factitious, and conversion disorder even with organic pathologies.

Then, Sigmund Freud (1856–1939) allowed a crucial evolution by differentiating hysteria from simulation. He explained its unconscious nature and introduced the term conversion in reference to an intrapsychic conflict converted into somatic symptom.

In 1980, the American Psychiatric Association included the diagnosis of factitious disorder in the DSM-3, where the distinction between the conscious production of a symptom as opposed to the unconscious production of a symptom, such as in hysteria is well defined. The evolution of these entities was closely related to sociocultural context. First, malingering behaviors were present almost exclusively in military and criminal world, then it moved to a larger population in society, with the creation of social welfare state and financial compensation, which were considered as catalyst by certain authors [5]. On one hand, deception is an innate behavior in humans (seen

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also in primates [6]) from childhood, reinforced by life events. On the other hand, feigning symptom could be considered as medical illness, a witness of a profound pain that needs an appropriate action by doctors. The question is still open and the growing number of publications during recent years shows a real scientific interest. The "biopsychosocial" model developed by Georges Libman Engel (1913–1977) may provide an explanation for this [7]. The focus is on the person himself, a mild psychological or physical impairment is modified by the patient's perception under the influence of belief, attitude, life's events, and sociocultural context. The symptom can be amplified, and provoke more disability than expected by another person with another history. This can cause misunderstanding. It is opposed to the biomedical model that predominated before.

Epidemiology

Medically unexplained symptoms represent 30% of neurologist's consultation [8] and in neurology clinics, 16% of new outpatients were diagnosed with functional and psychological symptoms [9]. The incidence rates of conversion disorder were consistent between 4 and 12 per 100,000 population per year [10]. Sensorimotor deficit and psychogenic non-epileptic seizure seem to be the more frequent manifestations, and association between symptoms is not rare. The remission rate was 21.5% at 7.4 years [11], but 83% of sensorimotor deficit persists at 12.5 years [12]. Patients' belief, non-attribution of symptoms to psychological factors, and receipt of illness-related financial benefits predict poor outcome at 1 year [13]. Limitations of epidemiological study are illness definition and requirement of detailed neurological examination that narrow study in neurology department, which does not reflect general and large population [14].

The prevalence of factitious disorder was estimated at an average of 1.3%, and the highest estimation was given by a dermatologist and neurologist. A high number of patients have health-related professions (60%) and are women (72%), with a mean age of 30 years [15]. Psychiatric comorbidity is frequent in particular borderline personality disorder.

The estimated prevalence of malingering range between 10 and 30%, for a legal setting [16] with personal injury cases. When disability compensation is involved, feigning cases are found in 40–59%, with an estimated cost of 20 billion dollars [17].

Physiopathology

Functional neuroimaging allowed a better understanding of the mechanism of conversion disorder. The most studied clinical presentation is sensorimotor conversion, and comparison between affected and non-affected sides during attempted movement ver-

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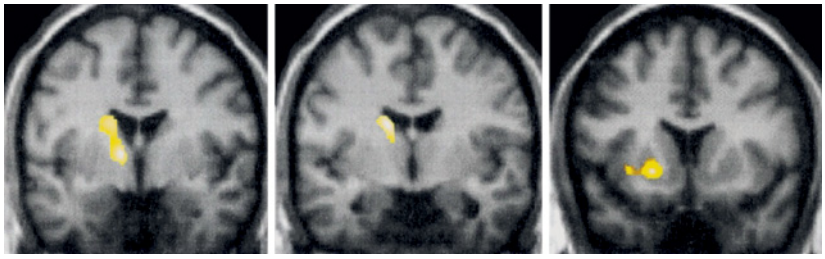

Fig. 2. Decreased activation in basal ganglia in conversion disorder. From Vuilleumier et al. [18]. Reprinted with permission.

sus healthy people showed different activation patterns in cortical and subcortical structures. Some studies showed a dysregulation of sensorimotor network, such as primary and secondary motor cortex, thalamus, and caudate nucleus under the influence of limbic system [18]. Emotional dysregulation was supported by abnormal amygdala activation during stimuli with different affective valence [19] and suppression of unwanted memories during recall of traumatic events [20]. In both studies, abnormal amygdala and supplementary motor area were found. Numerous hypotheses such as heightened self-monitoring and abnormal sense of agency also need to be included [21, 22]. In summary, pathophysiologic mechanisms involve complex networks that are very difficult to approach with a unique model (Fig. 2) [22–24]. Interestingly, however, these findings support the psychodynamic lesion theory suggested by Charcot, a century ago.

Regarding simulation, several studies found distinct patterns between feigners and conversion that support different mechanisms for both entities and, confirm the involuntary nature of conversive symptoms [25, 26]. Overall, some authors worked on deception and found an involvement of prefrontal and anterior cingulate cortices in neuroimaging [27].

Different theories exist on factitious disorder. First, it could be the result of past social learning: during childhood, the sick role might be reinforced by positive attention or avoidance of responsibilities. The strong association with personality disorder supports this neurodevelopmental point of view. Second, this pathology could be secondary to the patient's abnormal perceptions of bodily sensations caused by a faulty cognitive process. Third, in psychodynamic theory, factitious disorder is considered as an intrapsychic defense: illness is considered as an excuse for failure and protects the ego from low self-esteem.

Interestingly, some authors considered malingering, factitious, and conversion disorder not as distinct entities but more as a continuum with overlapping, where intention and motivation play a role at different levels in symptom production. In conversion disorder, motivation is "internal" without conscious intention and in factitious disorder motivation is external with conscious intention [28]. This is supported by risk factors shared by both, such as personality disorder and psychological traumatic events.

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Diagnosis

The diagnosis of conversion disorder has evolved a lot during the last years, as evidenced by the recent changes in the DSM-5 [29]. In the DSM-4-TR [30]: "psychological factors are judged to be associated with the symptom or deficit because conflicts or other stressors precede the initiation or exacerbation of the symptom or deficit" was removed in the new version of DSM [1]. Studies did not show it being systematically associated with the disease. Furthermore, physical factors such as pain, surgery can be considered as relevant as psychological trauma. The requirement of this criterion could be problematic for the diagnosis.

In the DSM-5 [1]: "clinical findings provide evidence of incompatibility between the symptom and recognized neurological or medical conditions" is a very important point. A recent literature is interested in the so-called "positive clinical signs." In fact, these signs were described before, as in sensorimotor deficit, the Hoover's sign. In 1908, Charles Franklin Hoover (1865–1927) described involuntary extension of the leg when asked a flexion of the contralateral leg. In organic paresis, involuntary extension disappears, but in conversive paresis it persists [31]. Other signs used in clinical practice include entrainment test for tremor and eyes closed during psychogenic non-epileptic seizure [32]. Including these signs in the definition gives positive criteria and changes diagnosis, which is no more an exclusion diagnosis. Good specificity (100%) and sensitivity (around 95%) were found with an acceptable inter-observer agreement regarding weakness, gait, and sensory symptoms [33]. The misdiagnosis rate of conversion is low; 4% in a meta-analysis [34] and below 1% in a large prospective cohort [11]. Paraclinical examinations have to be strictly normal, for example, in psychogenic non-epileptic seizure the gold standard is video-EEG with a recorded seizure showing no abnormality in EEG. In neurophysiological examination, Bereitschaft potential may support the diagnosis [35]. It is a cortical event recorded 1 second before the movement onset. It reflects the preparatory activities of the primary sensorimotor cortex and the supplementary motor area. It is visible in voluntary and self-initiated movements and disappears in organic myoclonus. Its presence is oriented towards a psychogenic myoclonus. Furthermore, electrophysiological criteria exist showing variability and entrainment in psychogenic tremor [36].

The diagnosis of factitious disorder is based on a cluster of arguments such as various consultations in different hospitals, atypical course of illness, inexplicable laboratory result or physical evidence like ligature applied to a limb to induce edema. Patients have often worked in health care industry and also have childhood illnesses, mood and personality disorder or a story of substance abuse. The term Munchausen syndrome is often used as a synonym of factitious disorder, but it refers to its severe and chronic form. In fact diagnosis of certainty is confession or evidence of feigning. One way to succeed is a well-prepared clinical interview to obtain confession, supported by document or proof. Neuropsychological examination can help with symptom validity test based on working memory, if errors are more frequent then hazard ratio malingering is possible [37].

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Management

Conversion disorder needs ideally a multidisciplinary approach. In the last decades and even today, patients suffer from incomprehension from the medical world. Now, the role of a therapist is changing; neurologist was requested to exclude an organic pathology and psychiatrist to search for a psychiatric comorbidity without a longitudinal management. It had generated incomprehension and provoked medical nomadism. Diagnosis announcement is an entire part of treatment: a good acceptance of diagnosis improves prognosis and this is supported by showing "positive signs" with explanation and using adequate words [38]. In case of anxiety or depression using inhibitors of serotonin, recapture can be helpful as physiotherapy with specific methods focused on function and automatic movement rather than impairment and controlled movement [39]. Cognitive-behavioral therapy permits an improvement on Clinical Global Improvement scale but this disappeared 3 and 6 month later [40]. Repetitive transcranial magnetic stimulation should have an effect on neural excitability and connectivity or even a placebo effect [41]. Results are contradictory and dependent on the type of transcranial magnetic stimulation and target area. Finally, less conventional medicine, such as hypnotherapy and mindfulness can be helpful [42].

Regarding factitious disorder, in the management of these patients, it is necessary to understand that simulation is the consequence of a significant distress to avoid direct confrontation that is counter therapeutic. Only 17.2% of patients confronted the diagnosis acknowledged factitious behaviors [15]. A more nuanced approach is recommended with a supportive and well-prepared interview: collecting evidence, avoiding judgement, discussing strategy… [43]. This will offer a face saving way out, which is an important element for patients to explain their recovery. In most cases, specialists are concerned about symptoms that help in the initial diagnosis, but a psychiatrist's intervention is fundamental; conducting an interview with the patients and with at least 2 other persons is advisable. In fact, there is no strong evidence supporting this kind of management in literature. A systematic review found no difference between using or not confrontational approach, psychotherapy, and psychiatric medication, and proposed a central reporting register to facilitate the development of evidence-based guidelines [44].

Conclusion

Conversion, factitious disorder, and malingering are still passionate and controversial subjects. They formed the cornerstone in the development of psychiatry and neurology. In recent times, they are supported by new technologies, such as functional neuroimaging. There is no biomarker permitting a diagnosis of certainty and it is based on the experience of the practitioner, which is a very subjective strategy. They put medical doctors in front of their limits and into an unusual role of detec-

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tive. Some consider it as a part of medical function and some others do not. Sometimes helping patients can be unclear but an empathic and comprehensive attitude seems to be a good strategy. Furthermore, therapies are not non-existent and a multidisciplinary approach is recommended. For the future, guidelines should be appreciable. It will make it possible to get away from stigmatization and permit a more efficient management to avoid huge financial costs involved by society for these pathologies.

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