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Psychiatric emergencies (part I): psychiatric disorders causing organic symptoms

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Abstract. – ***Psychiatric emergencies*** **are conditions that mostly destabilize the already frenetic activity of the Emergency Department. Sometimes the emergency is clearly referable to** ***primitive psychiatric illness.*** **Other times,** ***psychiatric*** **and** ***organic symptoms*** **can independently coexist (*****comorbidity*****), or develop together in different conditions of** ***substance abuse*****, including alcohol and prescription drugs. Differentiating between substance induced and pre-existing psychiatric disorder (dual diagnosis) may be difficult, other than controversial issue. Finally, an organic disease can hide behind a psychiatric disorder (*****pseudopsychiatric emergency*****).**

In this review (part I), ***psychiatric disorders*** **that occur with** ***organic symptoms*** **are discussed. They include: (1) anxiety, conversion and psychosomatic disorders, and (2) simulated diseases. The physiologic mechanisms of the** ***stress reaction*****, divided into a dual neuro-hormonal response, are reviewed in this section: (1) activation of the sympathetic nervous system and adrenal medulla with catecholamine production (*****rapid response*****), and (2) activation of the hypothalamic-pituitary-adrenal axis with cortisol production (*****slow response*****). The concept of the fight-or-flight response, its adaptive significance and the potential evolution in paralyzing response, well showing by Yerkes-Dodson curve, is explained. Abnormal short- and long-term reactions to stress evolving toward well codified cluster of trauma and stressor-related disorders, including acute stress disorder, adjustment disorder and post-traumatic stress disorder, are examined. A brief review of major psychiatric disorder and related behaviour abnormalities, vegetative symptoms and cognitive impairment, according to DMS IV-TR classification, are described.**

Finally, the ***reactive psychic symptoms*** **and** ***behavioral responses*** **to acute or chronic organic disease, so called "somatopsychic disorders", commonly occurring in elderly and pediatric patients, are presented. The specific conditions of post-operative and intensive care unit patients, and cancer and HIV positive population are emphasized.**

Key Words:
Psychiatric emergencies, Stress reaction, Anxiety disorders, Psychosomatic disorders, Somatoform disorders, Conversion disorders, Factitious disorders, Somatopsychic disorders, Reactive disorders.

Abbreviations

ECG = electrocardiogram
ED = emergency department
EP = emergency physician
HIV/AIDS = human immunodeficiency virus/ acquired immune-deficiency syndrome
ICU = intensive care unit
MR = magnetic resonance
PTSD = post-traumatic stress disorder
SPECT = single-photon emission computed tomography
US = ultrasonography

Introduction

Psychiatric problems account for about 5% of all ED visits. Since early '90, even if psychiatric disorders prevalence is not so different, ED requests for these reasons significantly rose. In these conditions, even skilled staff may be exposed to mistakes in diagnosing acute psychiatric disorders, prevalently due to the poor time available in ED[1]. The most prevalent diagnoses among patients presenting psychiatric emergencies are depression, adjustment disorders and anxiety disorders, comprising together 75%. Psychoses, organic disorders and addictive disorders are diagnosed in remaining cases. Concerning the presentation as an emergency, 70% of patients report a subjective clinical deterioration, but only 44% are regarded as an actual need in the responsible physician's point of view[2]. Agitation, delusions and/or hallucinations, and the

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presence of multiple problems are associated with compulsory admissions, whereas depressive and anxiety symptoms are associated with voluntary admissions. In a half of cases, the admission is solicited by patients' family members[3]. Sometimes *psychiatric emergency* is easily referable to a primitive psychiatric disorder, such as patient known with relapses or suggested by his family doctor or relatives. These patients do not usually require extensive evaluation by general practitioner or by EP. However, when the clinical differentiation between functional and organic disease is unclear on the basis of available information, a patient should be thoroughly evaluated to exclude a toxicological cause or a medical disorder. Indeed, psychiatric disorders can reveal themselves with organic symptoms, as well as represent the main manifestation of an organic illness (*pseudopsychiatric emergency*) (Table I)[4].

The most important step in managing this patient is the *initial interview*, which should be conducted by the EP in a quiet room, often unavailable in ED. When previous medical or psychiatric history is not available or the patient is uncooperative or disorganized, valuable information should be obtained from family members, friends, coworkers, paramedical personnel or police. *Physical examination* and *routine laboratory panel,* including *toxicological tests*, are indicated for most of cases, especially if marked agitation, violent behavior, confusion or abnormal vital signs exist. However, when patient exhibits violent behavior, a *rapid tranquillization* is recommended, by parenteral administration of antipsychotic agents (haloperidol, olanzapine) or benzodiazepines, until target symptoms are improved[5,6]. Analogously, psychiatrist and psychologist too should know the diagnostic criteria suggesting an organic illness mimicking a primitive psychiatric disorder[7].

Table I. Ten clinical criteria for diagnosing of psychiatric emergencies, suggesting psychiatric symptoms *secondary* to substance or medication use/abuse or organic disease (*pseudopsychiatric emergencies*), rather than a primitive psychiatric disorder.

1. Age higher than 30 years, which is rare onset of acute psychiatric illness
2. No previous personal history of psychiatric illness
3. History of organic illness or substance or medication use/abuse
4. Sudden onset of psychiatric symptoms
5. Confusion, visual hallucinations and disorientation to time and place
6. Symptoms not corresponding to a specific psychiatric diagnosis
7. Abnormal vital signs
8. Coexisting signs of a specific organic illness
9. Sudden fluctuation of psychiatric symptoms
10. Poor response to psychiatric treatment

The most used mental disorders diagnostic tool by physicians, psychiatrist and psychologist all over the word is DSM-IV-TR[8]. Operative protocols shared between EPs and psychiatrists are used in some EDs, in order to reduce the number of patients to submit to detailed internistic evaluation and diagnostic tests. Recently the term "*Medical Clearance*" has been proposed, to define a rapid way to separate in two different groups patients addressing to ED for psychiatric disorders: (1) patients not requiring a medical evaluation because already suffering from primitive psychiatric disorder; (2) patients requiring a medical evaluation. In a retrospective trial carried out in the ED of Southern California School of Medicine University, out of 212 patients 38% were selected among those directly oriented to psychiatric evaluation just after nursing triage and a brief patient history collection plus physical examination. In the remaining 62% was indicated a closer examination by routine laboratory, toxicological and instrumental tests[9]. The main clinical criteria orienting to an organic illness rather than to a primitive psychiatric disorder are summarized in Table I. Commonly, beyond the *age of 30*, the acute onset of a psychiatric illness is rare, especially if a patient referred a regular work, normal social and domestic relationship and well-groomed appearance. On the other hand, *history* of substance or medication use/abuse or organic illness, recent trauma, presence of risk factors for cerebral vascular disease (hypertension, tabagism, mellitus diabetes, hypercholesterolemia), strongly suggests secondary origin of psychiatric manifestations. Coexisting *vital parameter abnormalities* (e.g. consciousness impairment, hypoxia, hyperthermia, tachycardia, tachypnea, hypoglycemia), or *signs* of a specific organic disease, such as neurologic manifestations in brain neoplasm or stroke or Parkinson's disease, nucal stiffness in meningitis or intracranial hemorrhages, typical facies in Graves's or Cushing's disease, abnormal cutaneous findings in anemia or uremia or liver failure, Kayser-Fleischer's ring in Wilson's disease, make hardly improbable a psychiatric illness. In the meanwhile, *sopor, confusion, spatial* and *temporal disorientation,* or a *rapid change in personality* should let think and investigate possible organic

causes, by performing arterial gas analysis, routine chemical assay and bedside US, to promptly confirm electrolytic, metabolic, cardio-pulmonary, hematologic, infectious and urinary tract disorders. Even *rapid circadian changes* in the entity of psychiatric disorders should suggest an organic cause, because in a schizophrenic patient hardly the symptoms disappear in few days even during treatment. Finally, the *lack of healing* even during a proper treatment should incite to an in-depth study through an organic cause[10].

Moreover, psychiatric and organic disorders can independently coexist, resulting in the well known "*comorbidity phenomenon*". It defines the non univocal interrelation between medical illnesses and psychiatric disorders, each other negatively influencing morbidity and mortality. Finally, psychiatric and organic disorders can be together induced by toxic substance and prescription drug abuse (Table II).

However, a clear distinction of the potential interrelation between psychic and organic conditions may be difficult, appearing well combined the etiopathogenetic triad common in all diseases: the *biologic* component (or genetic), the *psychiatric* component (or experience) and the *environmental* component (or socio-cultural), well summarized in the concept of *biopsychosocial medicine*. An example of really connected diseases are asthma, hypertension, gastritis, nettle-rash, diabetes, autoimmune diseases, fibromyalgia, depression and substance abuse, in which each component exercises different influence. The unity of medicine would be emphasized and the role of psychiatrists in the education of physicians hoped for the future[11-13].

Table II. Correlations between *psychiatric disorders* and *organic diseases*.

1. Psychiatric disorders causing organic symptoms (*primum movens: psychiatric disorder*)
Anxiety disorders
Somatoform (psychosomatic) and conversion disorders
Factitious disorders
2. Psychic disorders coexisting with organic diseases (*primum movens: comorbidity or toxic agent*)
Comorbidity and "dual diagnosis"
Substance/drug use disorders
3. Psychiatric symptoms resulting from organic diseases (*primum movens: medical illness*)
Reactive or somatopsychic disorders
Pseudopsychiatric syndromes

Normal and Abnormal Response to Stress

Anger and *fear* are universal moods of alert, proper instinctive behaviour response of accommodation to an external threat. The efficacy of this primordial performance, efficaciously described by Walter Cannon's term "*fight-or-flight response*", coined nearly 100 years ago, is directly proportional to the level of anxiety that rises up till an optimal stage (*adaptive anxiety*), and then decreases till a complete inability to react to still increasing anxiety levels (*mismatch* or *freezing* or *paralyzing anxiety*)[14]. This relationship between adaptive anxiety and performance, that transferred in our modern society could be associated to a good progress at school, a good outcome of surgery, an artistic or sportive competition win, a good sexual performance and so on, was described more than 100 years ago in the theory of the curve by Yerkes-Dodson[15] (Figure 1). This *acute stress reaction* (usually called *shock*, which should not be confused with the unrelated circulatory condition of shock) describes this psychological condition arising in response to the stressful event. The symptoms show great variation but typically include an initial state of "daze", with some constriction of the field of consciousness and narrowing of attention, inability to comprehend stimuli, and disorientation. This state may be followed by either further withdrawal from the surrounding situation (to the extent of a dissociative stupor), or by agitation, anxiety, impaired judgment, confusion and depression. Autonomic signs typically encountered in panic attack (tachycardia, sweating, flushing) are also commonly present. These symptoms usually appear within minutes of the impact of the stressful event, and disappear within few hours, leaving behind partial or complete amnesia for the episode[16].

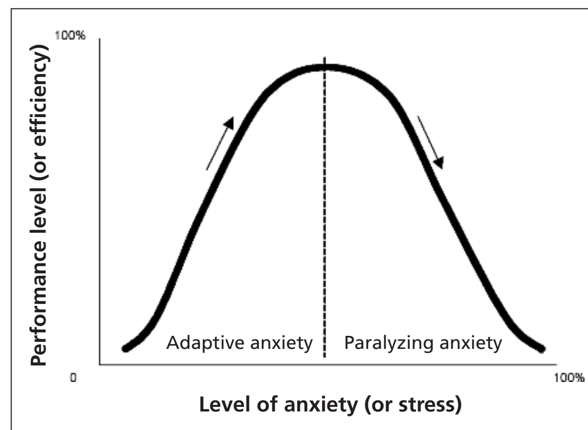

Figure 1. Relationship between increasing level of anxiety (*abscissa*) and quality of response (*ordered*): there is an optimal level of anxiety (*or stress*) which corresponds to the top of performance (Yerkes-Dodson curve, as amended).

The stressing impulse determines the following events: (1) the *impulse perception* or cognitive component; (2) the assignation of an *emotional meaning* to the impulse received; (3) the *impulse response*, comprehensive of two components, behavioural (push to action) and vegetative (mydriasis, hypertension, sweating, tachycardia). Examples of stressful impulses are reported in Table III.

Physical and mental components of the stress reaction derive from hypothalamus and limbic system. In 1936 the Hungarian physician Hans Selye coined for the first time the term "stress", from the English term "distress", in its turn derived from Latin "districtia" (properly "effort"), to describe the neuro-hormonal mechanism underlying stress response[17]. During an acute stressful situation there are two main neuro-hormonal responses: (1) the activation of sympathetic nervous system and adrenal medulla (*rapid response*) with catecholamine production[18]; (2) the activation of hypothalamic-pituitary-adrenocortical axis, so stopping the normal negative feed-back, determining a significant increase of cortisol secretion (up 10-fold) (*slow response*)[17].

In this regard, *anxiety* has normal, adaptive significance, if restrained and justified by a real threat; it becomes pathologic, and so not adaptive, and cause of reduced efficiency and suffering if excessive, long lasting or unjustified. The disorder deserves a treatment if it lasts several days, if determines high suffering and if invalids social life.

Acute stress disorder was introduced into DSM-IV to describe severe acute stress reactions that occur in the initial month after exposure to a traumatic event, and before the possibility of diagnosing PTSD, and to identify trauma survivors in the acute phase[19]. *Adjustment disorder* is a common stress-related, short-term disturbance, disproportionate to an identifiable stressful event, discovered in about 20% among clinical patients population. Depressed mood is the most common subtype assigned, followed by anxious mood and mixed anxiety and depressed mood, variously associated to conduct disturbances, trembling, palpitations and other physical complaints. In adolescents, common stressors include family conflict, school problems or sexuality issues. In adults adjustment disorder may be due to marital or financial problems, other stressors for people of any age including death of a loved one and general life changes. Adjustment disorder is considered one of the subthreshold disorders, which are less well defined by a categorial criteria (see below), and share characteristics of other diagnostic groups, being located on a continuum between normal stress reactions and specific psychiatric disorders[20]. A problem with this diagnostic construct is apparent in the DSM-IV-TR description: "maladaptive reaction to an identifiable psychosocial stressor, or stressors, that occurs within 3 months after onset of that stressor". Despite the difficulty in defining this diagnosis, the discomfort and anguish to the patient are significant and the consequences, such as the suicidal potential, especially among adolescents and frequently not planned and evolving without any notice, are extremely important[8].

Table III. Examples of stressful events.

Examples of stressful events
Adverse environmental (cold or heat)
Emotional reactions (fear of illness or death)
Aggression
Violence
Trauma
Hemorrhage
Surgery
Fever
Hypoglycemia
Severe infection
Acute coronary syndrome
Cancer diagnosis
ICU admission
HIV infection
Hospital admission (elderly)
Acne vulgaris (adolescence)

Even *joy* and *sadness* represent physiologic adaptive moods, in response respectively to positive or negative events. Exhilaration is an excessive response, but justified by a success. Sadness and normal depression represent the universal response to delusions and defeats. *Transient depression* is recorded in occasion of festivity, anniversary, before female periods or after delivery. *Reactive depression* is strictly bound to the importance of the causing events and to the emotive meaning referred to them (relatives death, social or emotional defeat, money loss). Typical is the development of a reactive depressive status in response to a critical or disabling chronic illness, otherwise presenting with a simple mood disorder variable with the state of illness: each subject reacts in a different way to disease, this depending on his psychological, cultural and social background. These normal emotional response should be distinguished from *pathologic exhilaration* or *mania* and from *clinical (major) depression*. The terms mania and major depression are used when respectively exhilaration or sadness are so intense and/or last much more time than predictable from the determining event, or start without a cause.

Reactive Psychic and Behavioral Disorders to Severe Medical Illness

It should be considered that every organic disease, especially if severe, chronic or disabling, represents itself a psychic stress. To the basal illness symptoms several *reactive psychic* and *behavioral disorders*, so called "somatopsychic disorders" add in a different way case by case[21].

Emergence delirium is a condition that can affect up to 50% of the *postoperative* and *ICU patients*, but is seen most often in elderly and pediatric age. Most cases of emergence delirium resolve quickly and without incident, while anxiety disorders and depressive symptoms can persist. Several and complex mechanisms have been proposed, everyone mainly involving *central dopaminergic* and *serotonergic* systems: 1) endotoxin release; (2) drug administration or withdrawal; (3) level of post-operative pain; (4) excessive concern or demoralization for own illness[22]. In elderly population the physiologic impairment of homeostatic cerebral functions, other than cardiac e muscular ones, all tissues unable to regenerate, make these organs the first manifesting functional deficiency (theory of the "weakest link"), even when the primary illness involve another organ. In elderly the delirium presents the following features: (1) sudden onset and fluctuation course; (2) coexistence of cognitive deficit and behavioral abnormalities; (3) consciousness impairment[23].

About half of *cancer* patients undergo a psychiatric diagnosis during treatment. Anxiety and/or depression are observed in 20-40% of them, whose pathogenesis is referable either to reactive processes or to paraneoplastic syndromes. Psychiatric symptoms need to be managed promptly because they cause not only distress owing to mental manifestations, but also reduce patients' motivation for treatment, impair their decision-making and increase the incidence of suicide. Hence, despite the prevalence of suicidal ideation in a cancer population being comparable to the general population, the prevalence of completed suicide is more elevated[24].

A special subgroup is represented by *HIV/AIDS patients*, in which the main causes of the frequent depressive status, in addition to reactive mechanisms, should be sought in the "comorbidity phenomenon", involving previous socio-environment and psychic issues, coexistent alcohol or drug abuse and side effects of pharmacologic treatments[25].

Finally, *children* and *adolescents* with chronic physical illness, considering as model illnesses diabetes, inflammatory bowel disease, cancer, and sickle cell disease, face psychosocial challenges that affect their quality of life. Many children denied their problems[26]. Even *acne vulgaris*, a commonplace problem affecting more than 85% of teenagers, may have significant and enduring emotional and psychological effects. The "acne problem" is reported in 14% of students. In addition to its negative impact on self-esteem and mood, acne is associated with anxiety, depression, body dysmorphic disorder and suicidal ideation[27].

Main Psychiatric Disorders and Associated Symptoms

The most common *psychiatric manifestations* may be classified into following three groups: *anxiety disorders, mood disorders* and *personality disturbances*. *Abnormal behavior* and *vegetative symptoms*, various degrees of *cognitive compromission* and *consciousness impairment* may variously co-occur. Art and Cinema have been always concerned in psychiatric disorders and their expression of these conditions communicates a specific meaning almost immediately to every viewer (Figure 2). On the other hand, madness and art often cohabit in artists, who can reproduce their same sensations in the observer by their works.

Anxiety is defined as an alert state for an imminent danger, with fear and surveillance and neurovegetative symptoms, in absence of a specific object (Table IV). "*Anxiety disorders* caused by a general medical condition" (DMS IV-TR classification) are common in ED patients. Predictors of organic origin of anxiety is reported in Table I. The preservation of the self-criticism and the sticking to realities, constitute the most important differentiations of anxiety disorders from psychosis. *Mood disorders* refer to a group of psychiatric disorders affecting emotional state. Mood disorders due to "general medical conditions" and "substance abuse" are included into DSM-IV TR classification, together the typical unipolar (*major depression*) (Figure 3), and *bipolar disorders* (alternation of mania and depression) (Figure 4). Depressed patients can display associated anxiety disorders (almost 60%) and impulse control disorders (30%). The lifetime *suicide* risk in untreated patients with major depression is 10-15%, although 70% of them may express recurrent suicidal ideation. Many medical disorders and medications may also affect *thought process,* ranging from *mild personality*

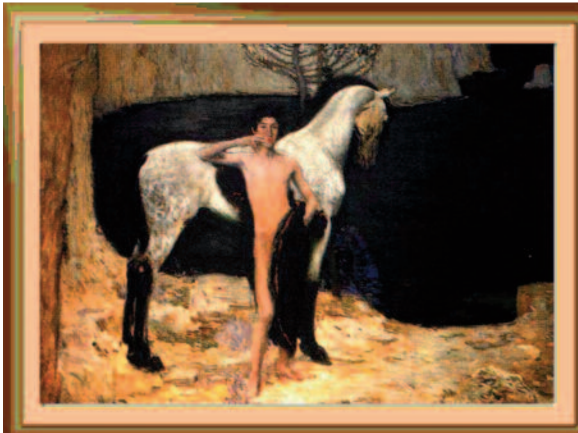

Figure 2. This oil painting "The Black Lake" (1904, Narodni Galerie, Prague), by Jan Preisler (1872-1918), Czech exponent of Symbolism, expresses the poetical atmosphere and melancholic (from greek "melas" = black) mood of the period at the turn of the 19th century.

Figure 3. "Old Man in Sorrow" (1890, oil on canvas, Kröller-Müller Museum in Otterlo, Netherlands), by Vincent van Gogh (1853-1890), is among final paintings of the artist, and reflects not just his condition, but his sense that all humanity lived with uncertainty.

changes to *acute psychosis*. *Hallucinations* (perceptive abnormality) and *delirium* (ideation abnormality) are the most common manifestations, the first one mainly including auditory and visual abnormalities (Figure 5), the last one including persecution, megalomania, jealousy and guilt delirious ideation. Confused delirium, e.g. coexisting with disorientation to time and place, cognitive and consciousness impairment, suggests organic psychosis (Table I).

Behavior abnormalities include depression in self-care, work activity, social relations and general activity up to catatonic behavior; otherwise, inconsistent gestures, restlessness, aggression and hostility may occur, without motivation in substance or organic psychosis, or due to perceptive abnormalities and/or persecutory delirium. *Vegetative symptoms* include disturbances in the three major areas of *sleep*, *appetite* and *sexual function*. Investigation on behavior disturbances and identification of any

Table IV. Main clinical manifestations of anxiety, divided into *psychiatric* and *organic* symptoms.

Psychiatric symptoms	Organic symptoms	
Poor concentration	**Neurological**	**Digestive**
Distractibility	Headache	Xerostomia
Memory deficits	Presyncope	Bolus
Apprehension	Paresthesias	Nausea
Agitation	Vertigo	Dyspepsia
Reduced libido	**Muscular**	Abdominal pain
Insomnia	Tremors	**Cardiac**
Anorexia	Cramps	Tachycardia
Apathy	Tetany	Chest pain
Asthenia	Fatigue	**Respiratory**
	Uro-genital	Sighing breathing
	Pollakiuria	Dyspnoea
	Dyspareunia	**Cutaneous**
	Impotence	Sweating
		Itchy skin

Figure 4. The clinical manifestations of *bipolar disorder* are very effectively showed in the film Mr. Jones (USA, 1993), directed by Mike Figgs. Mr Jones (Richard Gere) suffering from a maniacal seizure, that affords him periods of intense emotional pleasure, risks falling off from the roof of a house in an unforgettable movie scene.

sleep disorder, as well as eating and sexual disorders, is important for optimizing the disease course and its prognosis. *Cognitive impairment* includes disorganized speech, memory loss, executive functions, graphomotor deficit and dementia. *Consciousness impairment* is characterized by reduced attention, torpor, confusion, lethargy, and coma. Syncope is a brief transient consciousness loss, chiefly suggesting an heart or neurological disease[28].

Figure 5. A paradigmatic picture of *paranoid schizophrenia* developed by John Nash, winner the Nobel Memorial Prize in Economics in 1994 for his revolutionary work on game theory, interpreted by Russell Crowe in the film "A Beautiful Mind" (directed by Ron Howard, USA, 2001). In the movie image the protagonist has his first encounter with Marcee (Vivien Cardone), a character which exists only in his imagination.

Psychiatric Disorders Causing Organic Symptoms

Commonly psychiatric disorders can present as physical complaints, and these could be separated into 2 different groups: (1) *Anxiety disorders*, *conversion* and *somatoform or psychosomatic disorders*; (2) *Factitious disorders*.

Anxiety Disorders, Conversion and Somatoform Disorders

Any emotional event, regardless of its psychic, somatic or social nature, requires an adaptive response. As previously discussed, if belongs to a normal and mature mind, this response develops through physiological pathways (physiological stress reaction) and produces a right emotional and behavioural response[17].

In some cases this reaction could result excessive, so developing through pathways fully or mainly induced by the sympathetic hyper-activation, and producing restlessness, tachycardia, sweating and sleeplessness. An exaggerated even though justified way of long-term stress reaction can be recognized in *post-traumatic stress disorder* (PTSD), characterized by the re-experiencing of an extremely traumatic event causing an intense suffering. This disorder differs from adjustment disorder for its occurrence as a reaction to a life-threatening event and proneness to last longer. Recently, re-conceptualization of PTSD as a "trauma and stressor-related disorder" instead of an anxiety disorder was proposed, opening a heated debate[29,30].

But what happens if this physiologic reactive process stops for any reason? Freud formulated the concept that close to organic diseases there were others whose cause was not organic: in particular Freud thought that there are "*diseases caused only by mental process"*[31]. If the event responsible of emotional stress is unendurable because conflicting with consciousness, ambitions, social convenience, it creates much suffering (*conflict*). So the mind carries out a sequence of processes (*defence*) aimed to remove this event from aware thought (*censure*), but depriving it from its emotional expression (*repression*). Being now unconscious, but even full of its emotional meaning, the mental content of such event produces psychic disorders, by a sequence of psycho-emotional processes still unknown to the subject, who doesn't know either the original cause or the subsequent development (*generalized anxiety, panic attacks*). Sometimes, the discomfort deriving from such repressed emotional impetus, comes to the surface in particular situa-

tions, often harmless (*phobia*), or is relieved only yielding to compulsive behaviours or rituals (*obsessive-compulsive disorder*).

Other times, in presence of immature mental status (infants) or adults unable of an appropriate psychic status and of oral speech (primitive cultures, shortsightness), this anxiety can follow pathways different from mental ones (affective and symbolic) and articulate by "body speech" hiding behind a physical complaint, underlying hidden and unknown processes, though often with a symbolic interpretation (*conversion disorders* and *somatoform* or *psychosomatic illness*).

Anxiety Disorders

Anxiety disorders are among the most common disease in Western Countries (2-5% of the general population), resulting in about 40% in ED patients, and tranquilizers are among the most prescribed medicaments[32]. *Panic attack* is an acute anxiety episode accompanied in 70% of cases by agoraphobic spectrum. The patients suffering of panic attack usually submit very easily to doctor evaluation (10% of the requests to the general practitioner), often addressing to the ED, even if they don't recognize the psychic cause of their complaint but simply asking help. A panic attack often presents with cardiac symptoms (tachycardia, chest pain, dyspnoea) and tetany, alarming for the patient and for the physician, often not recognized as psychic disorders and managed by several and expensive investigations. Approximately 25% of patients with chest pain presenting to the ED have panic attack. However, anxiety disorders play a major role in triggering critical cardiac events, e.g. myocardial infarction[33]. The fear for a specific object (animals, place) or situation (dirt, trauma), often leading to avoidance behavior, defines *phobias*, *obsessive-compulsive disorder* and *PTSD*. It's really difficult to recognize at the moment of the first evaluation the real and deep cause of anxiety; often the physician can only treat the crisis by listening, more successfully than giving prescriptions. Simply listening to the patient represents the first act of management. Benzodiazepines can improve chest pain, modulating anxiety and cardiovascular activation by a reduction of circulating catecholamine and a direct coronary vasodilatation.

Conversion Disorders

Conversion disorders represent the translation of a psychic conflict to an organic symptom, traditionally showing highly significant and emotional contents. This disorder is really common in medical practice and in ED, but rarely is recognized by the physician and difficultly admitted by the patient. Conversion disorders, in contrast to somatoform or psychosomatic disorders, typically resolve and promptly respond to therapy. These symptoms are usually transient and changeable, providing gratification for unconscious dependency needs or escape from a psychological conflict yet removed. Needs and conflicts formed back in the past and, even if removed, can be explored by psychoanalysis.

The most frequent and common conversion symptoms are sensory functions, first of all pain (cervical, facial, abdominal, back and menstrual) unconsciously chosen because already felt (e.g. previous angina), borrowed by others (typical disorder of medicine students), representative of own trouble (backache as an unbearable "load" or "burden"), or useful to own condition (dispareunia in married life). Conversion symptoms could even affect voluntary motor functions, as pseudo-seizures, paralysis or other movement disorders, sensory functions (blindness) or sexual functions (frigidity, impotence). Conversion can involve together a group of people, and is particularly present in Western Countries mainly due to the wide use of influencing mass media (pollution disease, seasonal meningitis, recent H1N1 influence and so on)[34].

Somatoform Disorders

Somatoform disorders, yet defined *psychosomatic*, represent a subset of an abnormal organic diseases. The body is seen as origin of bad subjective sensations and of nasty general or particular working, without a provable or known organic and physiopathological bases. In fact the psychic involvement is not of easy and immediate comprehension, not being yet elaborated, but generally structured back in the childhood. These disorders are so deep-seated that the functional abnormality becomes an anatomic one, vanishing the distinction between the functional (factitious) and organic (real) disorder. As a consequence, these disorders tend to become chronic and don't heal easily with a psychological treatment neither with psychotrops. The underlying psychic conflict sometimes cannot be modified, because it occurred in very early age. Also in this cases, the choice of the "target organ" is not casual: though is less full of meaning than for conversion disorders, it is rather linked to the body growth and its reached control, or it refers to particular difficulties during growth itself. Such symptoms can be focused on skin (itching, eczema), on respiratory

tract (asthma) or on bowel tract (irritable bowel, ulcerative rectocolitis), or can involve the whole body by its immune (allergies, autoimmune diseases) or nutritional system (anorexia, bulimia)[35].

Factitious Disorders

A separate mention deserves the *Munchausen syndrome*, characterized by the repeated malingering of physical illness, often with acute features and exaggerated (pathologic lying with dramatic appearance, e.g. "pseudologia fantastica"), of patients wandering from hospital to hospital searching physicians to treat them. These individuals see themselves as important people, they possess extensive knowledge of medical terminology, and often are covered of scars and amputations. Although aware of deception and simulation they produce, they should be distinguished from true malingering because their reasons and requests of help are largely deep and unconscious. Predisposing factors could be child abuse by parents, prolonged physical and psychic treatment or a close relationship with important physician; severe personality disorders or working experiences in medical environment. Their need to be treated is in conflict with the authority, in such case the physician, that they challenge and provoke continually. Psychiatric approach is often refused[36].

A patient we knew wandered different hospitals complaining chest pain mostly, being judged at triage as a red code (emergency). Because of the repeated failure to persuade the physicians to diagnose a myocardial infarction and consequently to submit him to invasive procedures, then the patient began to simulate an aortic dissection, showing falsified radiologic examinations. He gets to the point of undergoing to three angiographies in few days, in different hospitals. Once, he gets to stop a high velocity train because he wanted to be brought in the nearest hospital. One colleague, temporally working in the north of Italy, met with him by listening to the report of a colleague shocked after a full night passing taking care of a "poor young men with a suspected aortic dissection". A scrupulous history collection and physical examination reveal several previous abdominal (a "map abdomen"), cranial, thoracic and groin surgery (both testicles had been removed). The patient seemed fully informed on such diseases and manifested as lonely behavioral symptom an extreme preoccupation, until aggressiveness, for venous achievement. When the physician tried to explain the possible psychic nature of such disorders, the patient voluntary discharged himself lashing out against physicians.

A patient described in Literature declared, each time, to live in different exotic places (Marocco, Haiti, Cuba); to be something bizarre, such as a Scottish Church Minister, a nuclear physicist of NATO, a psychology professor of Nicaragua, oceanographer following Cousteau. He simulated cardiac ischemic attacks or acute renal failure. Once, when he refused pyelography because allergic to contrast agent and so he was submitted to an urgent explorative surgery, physicians realized that one kidney has been already removed. He collected more than 500 hospital admissions and several surgical operations (almost 48)[37].

In these extreme cases, the patients can arrive to a real "surgical addiction". It has been underlined in pathogenesis the frequent presence of a severe disorder of personality (borderline) and depression, the possible role of drugs or toxic abuse, potential organic causes in some cases (ECG, MR and SPECT abnormalities), lack in performance in neuropsychological text. A variant of Munchausen syndrome is represented by *Munchausen syndrome by proxy*, a form of child abuse by a parent or a caregiver[38].

Finally, among physical simulated disorders we can list the so called *psychiatric pseudoemergencies*, false illnesses sometimes motivated from the well known "compensation syndrome", that can however hide a sever psycho-social stress. These ones should be distinguished by Munchausen syndrome because it is simulated always the same disease and patients, usually, don't wander from hospital to hospital. In this cases family members collaborations should be required presenting the problem as a disorder and avoiding to present it as a deception[36,39].

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