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Coronary Care Unit (CCU) Psychosis Syndrome

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Intensive Care Unit (ICU) syndrome or psychosis is frequently encountered among ICU patients constituting a significant barrier in the communication between them and their health care providers and posing a risk to their entire treatment plan. It has been reported that the effort required from the nursing staff to deal with patients having this problem is overwhelming more mentally than physically. We are herein briefly describing some aspects of this issue so that we can make it more easily recognizable by the ICU personnel since an early intervention before it reaches its peak is mostly beneficial for our critically ill patients. We use the term *organic psychosyndrome* reported in the classification of mental illnesses and disease DSM-IV. Of note, the same clinical entity is found in the literature under various terms, such as delirium, syndrome of units, acute situation, and delirium owed to medical general situation.

1. THE ELEMENTS OF NORMALLY FUNCTIONING CONSCIOUSNESS

Consciousness can be distinguished in 2 basic components: *level*, a term referred to the degree of vigilance which exhibits characteristic diurnal fluctuation (sleep-daydream-vigilance) and *content* consisting of the following functions:

- attention
- memory
- orientation
- perception
- thought

Consciousness can be disturbed, regarding its content, in some or all of its components, e.g. disturbance of memory in patients suffering from dementia. On the other hand, when level of consciousness is disturbed, all the above functions are affected to various degrees. Level of consciousness is a measurable parameter and Glasgow coma scale is the most widely used instrument to assess it in clinical practice.

2. ORGANIC PSYCHOSYNDROME - DEFINITION

Acute organic psychosyndrome is defined as the clinical picture of an individual with a prior intact level and content of consciousness who develops: slowing of thinking process, loss of attention and concentration, disturbance of temporal and spatial orientation, derangement of the perception of reality by the interference of acoustic or visual hallucinations and by the development of paranoid delusional ideas in various degrees, and finally impairment in the imprinting and recall of impressions.

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The addition of psychomotor agitation, insomnia, emotional instability and fear, scary hallucinations, delirious ideas of being chased and possibly convulsions gives us the full clinical picture of delirium.

3. CAUSATIVE APPROACH TO ACUTE ORGANIC PSYCHOSYNDROME

Patients hospitalized in the Coronary Care Unit (CCU) are prone to develop acute organic psychosyndrome, on one hand due to their hemodynamic instability and impaired cardiac output, electrolyte abnormalities and frequent occult infections and on the other hand due to their incarceration and social isolation in the CCU environment making them vulnerable to the ICU syndrome.

4. CLINICAL PICTURE

The recognition of the clinical picture of confusion and the causative approach to this picture requires careful observation, so that it is recognized in the early stages and managed sufficiently, where it is feasible.

It usually affects elderly individuals who already have a subtle and not appreciated by their close environment derangement of their mental function. Under certain circumstances such as an infection, metabolic disturbances, administration of certain medications or abrupt discontinuation of others, surgical interventions, acute vascular cerebral episodes or finally the change of environment and hospitalization under conditions of social isolation (e.g. admission to the CCU), these already vulnerable patients manifest the full clinical picture of the syndrome. This picture may often prevail over the underlying organic illness. Patients with renal insufficiency, diabetes, liver cirrhosis, or those with a history of substance abuse are more prone to develop the syndrome when admitted to an ICU. Sleep disturbances co-exist in almost all the patients who develop an acute organic psychosyndrome. Although it is not a pathognomonic finding, it is obvious for everyone who has worked in an ICU that the patients' mental function significantly deteriorates at night. That means that in most of the cases, the patient stays awake and becomes very agitated while he or she falls asleep in the early morning hours as a result of extreme exhaustion.

5. DIAGNOSTIC APPROACH

The diagnostic approach moves into two directions. The first one is the clinical approach to the patient with taking a detailed medical and mental history and performing a complete physical examination, which, of course, always includes

vital signs. The second one is the laboratory approach which requires blood count and chemistries, and urine examination, as well as arterial blood gas measurement. A more detailed medical or neurologic assessment along with central nervous system imaging (brain CT or MRI) is also needed in most of the cases.

6. TREATMENT

Treatment of the underlying medical condition and protection of the patient are the main therapeutic targets. Nursing care is extremely important. Confused patients should be reassured and kept calm as much as possible. The nursing staff must also prevent self-injuries caused by agitation and loss of self control. Efforts should be made to re-orient the patient in time and space and allow a close relative to stay bedside which can be very helpful in this direction. Less active but dangerously hyper-mobile patients should be restrained with use of iron bars and protective belts. More active patients should be offered low beds and their mobilization should be preferred if possible. It has even been proposed to let them walk in the room if it is permitted by their underlying medical condition. Patient's room must have a soft lighting and coordinating the lighting with the normal day-night cycle is also desirable. Persistent efforts need to be done to improve disorientation of the patient. Reviewing their medical condition and the reason for being in the CCU, orienting them to date and time, placing clocks or timetables within their visual proximity are some of the measures shown to be effective in the process of re-engaging the patient with reality. For the same reason, rooms with windows to see day and night alterations are more appropriate for them. Hearing and visual aids must also be available next to bed for those who use them. Providing periods for sleep by minimizing nursing care at that time is another important nurse's duty. Lowering the level of noise during the daytime has shown to be very helpful in preventing acute organic psychosyndrome.

Appropriate medications, if needed, should be given carefully and in low doses. Haloperidol is the most commonly used medication to treat ICU psychosis. Risperidone can also help by minimizing hallucinations. Benzodiazepines must be avoided (especially in elderly patients), with the exception of alcohol deprivation induced delirium tremens where diazepam administration is the treatment of choice. Anticholinergics are not recommended as well since they can induce confusion along with their other adverse effects (blurred vision, constipation, urinary retention, etc).

7. CONCLUSION

Patients hospitalized in the ICUs and CCUs have a high

chance to become confused and agitated. Loneliness, fear of illness and death, deprivation of the family environment, verbal interaction almost exclusively with the nursing personnel and the entire dependence on this staff for the satisfaction of basic needs like food and cleaning and inability to self-orient in time and space all make the patients in the ICU prone to the development of organic psychosyndrome. However, we should keep in mind that despite the scary picture of a confused and agitated patient and the difficulties that this condition poses to their management, organic psychosyndrome is a totally reversible disturbance in most of the cases and should not discourage us from offering the proper care to our critically ill patients.

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