

Intensive Care Unit: Psychosis

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Abstract

In last few years a unique clinical phenomenon of "ICU psychosis" or "Sun downing" in Intensive Care Unit (ICU) has been discussed. More recently, Eisendrath defined "ICU Syndrome" as an acute organic brain syndrome involving impaired intellectual functioning and occurring in patients treated within a critical care unit. "ICU psychosis" was present when the impairment prevented the patient from accurately judging reality.⁵ The aims of study understand about meaning of ICU psychosis, causes, signs and symptoms and management. ICU psychosis is dangerous because it impedes the delirium if not treated on time. So it is very necessary to understand about the topic and must be involved all medical and nursing professional in care to prevent it. This study will help to prevention and management of ICU psychosis.

Keywords: Intensive care unit; Psychosis; Sun downing.

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Introduction

In last few year so many new advance technology has been came with new advancement regarding patient care in intensive care unit. Most of patient who are going under surgery are reported with postoperative delirium as a part of ICU psychosis.¹⁻³

In 1966, McKegney coined the term "intensive care syndrome" to describe the 'madness' increasingly encountered in patients in cardiovascular recovery rooms, coronary care units, chronic dialysis facilities and other intensive treatment programs. McKegney emphasized the importance of the treatment setting in causing, preventing and treating such syndromes.⁴

Causes of ICU Psychosis⁶

Environmental Causes	Medical Causes
<ul style="list-style-type: none"> • Sensory deprivation • Sleep disturbance and deprivation • Continuous light levels • Stress • Lack of orientation • Medical monitoring 	<ul style="list-style-type: none"> • Critical illness (Respiratory disorder) • Pain not be adequately controlled in ICU • Medication (drug) reaction or side effects • Infection creating fever and toxins in the body • Metabolic disturbances • Heart failure (inadequate cardiac output) • Cumulative analgesia • Dehydration • Withdrawal from alcohol or hypnotics • Acute cerebral disorder such as edema or stroke • Hemodynamic disturbance • Nutritional and vitamin deficiency

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Pathophysiology

When the client has delirium it reflects diffuse brain cell metabolic dysfunction. Due to metabolic dysfunction it may affect alertness, attention, information processing and maintenance of normal sleep-wake cycles. All kind of dysfunction may occur at cell membrane, synapse and neurotransmitter levels.⁷

In case of quite delirium, bilateral diffuse will be slow and disorganization of integrated activity will be found in electroencephalogram (EEG). In case of agitated delirium, low voltage fast activity may predominate. The degree of slowing is proportionate to the decrease in cerebral blood flow, metabolic rate and oxygen consumption.^{7,9}

Two major etiological mechanisms has found in case of agitated delirium that are rapid eye movement sleep intrusion into the waking state and indogenous hallucinogen.¹⁰ Post surgery (CABG) delirium and neurological problem may be occurred due to hypotension, cerebral ischemia, hypoxia and micro emboli. There is certain clinical pathology like hypoxia, hypovolemia, hyponatremia, infection, acidosis, hypertensive encephalopathy, direct burn damage and analgesic and hypnotic drug which may aggravate post burn delirium.¹¹

Signs and Symptoms^{6,12}

• Extreme excitement	• Disorientation
• Anxiety	• Agitation
• Restlessness	• Delusions
• Hearing voices	• Abnormal behaviour
• Clouding of consciousness	• Fluctuating level of consciousness which include aggressive or passive behavior
• Hallucinations	
• Nightmares	
• Paranoia	

Diagnosis

Delirium is a bedside diagnosis. Mental status examination and neurological examination can be carried out to diagnose delirium. The examination should include assessments of level of consciousness, attention, orientation to time, place and people, recent memory, abstraction, perceptual abnormalities (illusions, hallucinations), paranoid

or suicidal ideation, and movement disorders (bilateral asterixis). Once will get data from history and physical examination we can processed for laboratory test for further evaluation.^{13,14}

Laboratory Studies to Investigate Delirium^{13,14}

Routine Procedures	Special Procedures
• Complete blood count	• Blood chemistry tests for creatinine, magnesium, B12, folate, thyroxine, ammonia, serum proteins, osmolality, arterial blood gases, cortisol
• Blood chemistry tests for electrolytes, calcium, phosphate, glucose, BUN, liver enzymes	• Test for levels of medications in the blood
• Urine analysis	• Blood and urine toxic screens
• Test for ESR	• Blood cultures
• Serological test for syphilis	• LE preparation and ANA levels
• Chest X-ray	• Urine tests for osmolality, porphobilinogen, 5HIAA
• Electrocardiogram	• CSF examination

Management

General principles¹⁵

- Essential steps must be taken to Prevention of delirium and psychosis.
- Early detection and treatment will help in reduce morbidity and death rate.
- To provide proper care and optimal management all personnel (staff, family member & physician) involved in care and environment must be consider in priority for client disorder.
- Therapeutic care & endeavors will be continuing after ICU discharge.
- A trusting relationship with the primary physician facilitates all the above and is central to post-discharge management.

Pre-ICU prevention^{15,16}

- If ICU admission is elective then identify and treat predisposing factors. The ICU staff should have enough knowledge to identify the high risk factors and required therapeutic regimen for the same.
- Reduce surgical organic precipitating factors.
- Diminish facilitating factors by careful preparation of the patient and family.

Planned interventions and possible adverse effects, particularly delirium, should be described.

- Pre admission orientation to the ICU, ICU staffs and ICU environment should be done with patient.
- Patient who are very anxious will get benefit from such kind of intervention.

*ICU prevention and treatment*¹⁷

- Visiting policies should be liberal and flexible
- Providing proper environment for healthy sleep
- Avoid unnecessary excitement which may interfere in sleep
- Keep same staff for caring of patient
- Orienting the patient
- Explain all procedure before doing
- Ask patient to express his doubt and make it Clear
- Collect history from patient relative and other resources
- Even coordinating the lighting with the normal day-night cycle

*Staff/patient relationships*¹³

- Give respect to the patient with warm approach
- Orientation should be continue as per requirement
- Build trustful relationship
- Use short and easy sentence to have easy understanding
- Autonomy in self-care

*Early recognition of delirium and psychosis*¹³

- Observe for attention span and distraction
- Encourage for reporting of early sign
- Early detection and treatment of organic causes

Facilitating factors^{18,19}

- Trustful relation will help to make easy conversation
- Provide adequate information which help to take decision

- Encourage for normal sleep and avoid distractor in night
- Provide calm and quite environment
- Avoid extra voice and unnecessary machinery
- Provide normal sensory environment : Windows, natural lighting and night light
- Provide privacy to feel sense of comfort
- Proper mobilization
- Allow to ventilate and express his feeling
- Pain management

Psychopharmacological management

- Severe delirium is treated with physostigmine (Anticholinergic) and supportive measures.²⁰
- Benzodiazepines and B vitamins required to treat delirium termers.²¹
- Haloperidol drug is a choice of other kind of delirium. The initial dose of haloperidol is 2–10 mg intramuscularly (IM) hourly until the patient is calm, usually 10–60 mg are required.²² The required total IM dose is then multiplied by 1.5. This required amount divided into two daily doses and it will be given by oral route at bedtime. Supplementary 5–10 mg IM or oral doses may be given up to hourly, but only if needed. When the patient has been given no supplementary doses for 24 hours (supplementary doses are seldom required for more than two to three days) the dose is decreased by one third of the total dose each day until the drug is discontinued. In case of mild delirium 2–10 mg twice daily by oral route will be given at initial stage. In extremely urgent situations bolus dose (1–25 mg) of haloperidol will be given by IV route which may result in tranquillization in 10–40 minutes. With all the above approaches, older patients may require only one-tenth to one-fifth of the doses.
- There is risk of Extrapyramidal as adverse effects. Antiparkinsonian drugs commonly used to treat Extrapyramidal symptoms. But this drug may worsen the delirium. Phenothiazine such as chlorpromazine (Largactil) 25 mg may be useful for patients who are refractory haloperidol. If close supervision of hourly doses is not possible, 25 mg of chlorpromazine IM or orally four times a day may be initiated and supplemented by hourly IM or oral doses of 25 mg as necessary.

Blood pressure and level of consciousness should be monitored.²³

- Major affective disorders with psychotic features are most treated by ECT. If ECT is not feasible then Intravenous maprotiline mesylate treatment was reported as successful.²³

*Patient/family counselling*²⁴

- Reinforces patient's and family's strengths
- Promotes reality testing
- Reassures, encourages optimism
- Accepts adaptive denial and acknowledges feelings.

*ICU discharge and follow up*¹⁷

- Proper prepare and informed for discharge
- Individual and family counselling
- Take medicine on regular time
- Proper follow up

Conclusion

ICU psychosis term we are using since long but very few articles or study has focused on it. In this article we have discussed about ICU psychosis where we stressed on all necessary component which help in understanding of ICU psychosis. Almost 40% of patient who admitted in ICU may have ICU psychosis and their severe symptoms. In this article we understood about how to manage the patient when he or she may present with such condition. Patient who are admitting in ICU with complain of ICU psychosis required care in all aspects like psychological care, spiritual care, physical care and pharmacological care. There are several causes which contribute to have dilirium but other variables also play vital role to develop it.

A comprehensive care and management will help to reduce morbidity and improved long-term outcomes. Every ICU staffs should be aware of these strategies, institute routine monitoring for delirium in the ICU, seek to reduce the impact of risk factors for delirium when possible, and use treatment options when necessary. Implementation of care will help in prevention of ICU psychosis. In future we can assess the staff knowledge, clinical observational skill, how they handle and manage this kind of patient.

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