# **ICU Psychosis**

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#### **Abstract**

Advances in the field of technology and sciences improved the patient care by using highly sophisticated machines. Application of these machines in the intensive care units created a serious problem that has been recently attracted much attention of the health care providers. The patients in ICU experiences a cluster of serious psychiatric symptoms named as ICU psychosis. ICU psychosis is also a form of delirium, or acute brain failure and is also known as ICU syndrome.

Keywords: Psychosis; Delirium; Sensory deprivation.

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#### Introduction

Advances in the field of technology and sciences improved the patient care by using highly sophisticated machines. Application of these machines in the intensive care units created a serious problem that has been recently attracted much attention of the health care providers. The patients in ICU experiences a cluster of serious psychiatric symptoms named as ICU psychosis. As the number of intensive care units and the number of people in them grow, ICU psychosis is perforce increasing as a problem.

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ICU psychosis is an acute organic brain syndrome involving impaired intellectual functioning and occurring in patient treated within a critical care unit.

#### Definition

"ICU Syndrome"/"ICU psychosis" as an acute organic brain syndrome involving impaired intellectual functioning and occurring in patients treated within a critical care unit.

-A/C Eisendrath

#### Incidence

It is commonly found in the critically ill with a reported incidence of 15-80%. By some estimates, 80% of elderly intensive-care patients develop the condition.

## **Etiology**

*Pre Disposing Factors* 

• Sensory deprivation: A patient being put in

- a room that often has no windows, and is away from family, friends, and all that is familiar and comforting.
- Sleep disturbance and deprivation: The constant disturbance and noise with the hospital staff coming to check vital signs, give medications, etc.
- *Continuous light levels:* Continuous disruption of the normal biorhythms with lights on continually (no reference to day or night).
- Stress: Patients in an ICU frequently feel the almost total loss of control over their life.
   Lack of orientation: A patient's loss of time and date.
- Medical monitoring: The continuous monitoring of the patient's vital signs, and the noise monitoring devices produce can be disturbing and create sensory overload.

# Precipitating organic factors

- Drug intoxication
- Alcohol withdrawal
- Metabolic disturbances
- Acute cerebral disorders
- Infection
- Hemodynamic disturbances
- Respiratory disorders
- Epilepsy

# Facilitating factors

- Sustained anxiety
- Sleep deprivation
- Sensory deprivation and overload
- Immobilization
- Unfamiliar environment
- Pain

# **Medical Causes**

- Pain that is not effectively treated in ICU
- Critical illness: The pathology of the disease, illness or traumatic event and its effects on body can lead to a variety of symptoms.
- Medication and side effects: medication which are new to the patient

- Infection creating fever and toxins in the body.
- Metabolic disturbances: electrolyte imbalance, hypoxia, and elevated liver enzymes.
- Cumulative analgesia: inability to feel pain while still conscious

### Clinical manifestations

- Sudden onset of impairment in cognition
- Disorganized thinking
- Difficulty in concentrating
- Problems with orientation in time and/or place and/or person
- Altered perception of external stimuli
- Impairment of memory
- Changes in sleep-wake cycle
- Hallucinations
- Agitation or change in activity levels

The cluster of psychiatric symptoms of ICU psychosis includes:

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

In short, patients become temporarily psychotic. The symptoms may change according to the patient and his disease condition. The onset of ICU syndrome is very rapid, upsetting and threatening to patient and even to his family.

#### Duration

ICU psychosis vanishes magically. It may last 24 hours or up to two weeks with fluctuations in the level of consciousness and behavior patterns

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of patients. But it usually worst at night (sun downing). Usually ICU psychosis resolves when the patient leaves the intensive Care Units.

# Diagnostic evaluation

- Bedside diagnosis
- Mini mental status and neurologic examination and explore other organic causes
- Nursing record –mental status, behavior and fluctuations of symptoms and signs
- Identify the precipitating organic factors and facilitating factors by history and physical examination and lab test
- Presence of past psychiatric illness or drug dependency-from family member

ICU psychosis can be diagnosed only in the absence of any underlying medical conditions which mimic the symptoms of the ICU psychosis. A medical assessment of the patient is important to search for other causes of mental status abnormality such as:

- Stroke.
- Low blood sugar,
- Drug or alcohol withdrawal, and
- Any other medical condition that may require treatment.

The patient's safety must be considered at all times.

### Management "wait and watch"

Management includes mainly Non drug management, clear communication of the health care personal, repeated verbal reminders for orientation to time, place and person.

### Pharmacological Management

- An Antipsychotic agent such as haloperidol (for resistant cases) is commonly used.
- Olanzapine and Respiridone have been used as sedating and have few side effects.
- Benzodiazepine would be beneficial, and lorazepam is the drug of choice.

### Other Therapeutic measures

- Adequate pain management.
- Avoid offending drugs.
- Correct fluid and electrolytes.
- Treat infection.
- Administer oxygen.
- Correct hypoglycemia and.
- Treat underlying cardiac problems.

#### **Treatment**

Treatment is based on the underlying causes. Firstly review the patient's medications to identify whether these medications are influencing the delirium.

- Allowing family members, familiar objects, and clam word may help to reduce the symptoms.
- Providing a quiet environment enhances sleep as sleep deprivation is a major contributing factor in delirium.
- Increase the visiting time to stimulate the patient
- Adequate hydration to be maintained.
- Early identification and treatment of the infections.
- Sedation with anti-psychotic agents may help.

### Prevention

# General principles

- Prevention of ICU psychosis is desirable
- Early detection and treatment reduces the morbidity and death
- Consider patient's family, ICU staffs, environment and his disorders for optimal management.
- Therapeutic endeavors do not stop with ICU discharge
- A trusting relation with the treating physician facilitates early recovery.

The primary goal is to correct any imbalance, restore the patient's health, and return the patient to normal activities as quickly as possible. To help prevent ICU psychosis, many critical care units are

#### now:

- Liberalization of visiting policies
- Adequate time for rest and sleep
- Prevent unnecessary excitement of the patient
- Minimize the shift changes in nursing staff who cares for the patient
- Adequately and repeatedly orient the patient to time, person and place
- Explain adequately about the medical procedures.
- Asking the patient if there are any questions or concerns.
- Adequate communication with the family about the religious and cultural beliefs.
- Co-ordinate the lighting with the normal day-night cycle, etc.

# Pre-ICU prevention

- ➤ If ICU admission is elective identify and treat the predisposing factors if possible.
- Decrease surgical organic precipitating factors if possible.
- Diminish facilitating factors.
- Treat depressive disorders before admission or surgery if at all possible, because of the increased risk of morbidity and deaths.

### ICU prevention and treatment

# 1. Staff- patient relationship

Presence of familiar staff or family members helps to improve orientation, decrease anxiety about strangers and builds trust.

An empathic, humane, respectful approach and direct communication decrease patient frustration and anxiety.

Autonomy in self care should be encouraged as soon as it is feasible.

## 2. Early recognition of delirium and psychosis

Determine attention span, orientation, memory and perceptions aids diagnostic and orientating activities.

Patient can be encouraged to report distressing symptoms as soon as possible.

# 3. Organic precipitating factors

Can be prevented or treated when delirium is diagnosed.

# 4. Facilitating factors

Decrease anxiety by adequate staff/patient relationship, presence of trusted relative, adequate information and reassurance about symptoms, procedures and orientating activities.

Reduce sleep deprivation – arrange nursing, investigational and visiting schedules.

Improve sensory environment by removing unnecessary machinery from the patient's immediate environment and providing familiar sounds. Windows, natural lighting, a night light and privacy are all desirable. Use eye patches.

Patient should be mobilized as early as possible.

Pain mgt- Adequate amounts of analgesics; avoid unnecessary painful procedures and using distraction and staff reassurance.

Enhance patient communication by an interpreter, writing tablet or alphabet board, if required.

### Patient/family counseling

- Counselor reinforces the patient's and family's strengths.
- Promotes reality testing, reassures, encourages optimism where possible.
- Reassured about the origins of delirium.

# Staff well being

- Stress may be alleviated by using team support.
- In-service teaching, patient follow up and the availability of regular consultations improve morale and confidence.

# ICU discharge and follow up

- Common problems following hospital discharge include depression, cognitive impairment, stress response syndromes and illness behavoiur reinforced by a variety of family interactions.
- Individual, group and family counseling.
- Administer antidepressant or other pharmacotherapy.

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### Conclusion

Delirium is a reversible syndrome, and its occurrence is associated with long term cognitive dysfunction. Early identification, risk factor assessment and prompt treatment is more important in dealing with psychosis. A multidisciplinary approach can enhance the recognition of delirium. For early intervention a validated delirium bedside tool can be used by the ICU team on daily basis. Prevention of delirium is the responsibility of all the health care providers who will have the ability to avoid precipitating factors. Further studies are needed on effective treatments, differences between the motor subtypes, and long-term consequences of ICU delirium.

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