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Iatrogenesis

Iatrogenic[1] health conditions refer to harm or negative effects on a patient's health that are caused by medical treatment or interventions. These types of health conditions can range from minor side effects of medication to serious complications and even death. The process of creating these conditions is referred to as iatrogenesis.

There are several ways in which iatrogenic health conditions can occur. One common way is through the use of medications. While medications can be essential for treating and managing various health conditions, they can also have unintended side effects. For example, a patient may experience nausea, dizziness, or allergic reactions when taking certain medications. In more serious cases, medications can cause more severe side effects such as organ damage or even death. A current example is the use of Midazolam during the C crisis in the UK.

Another way in which iatrogenic health conditions can occur is through medical procedures and surgeries. While these interventions can be necessary for improving a patient's health, they also carry risks and potential complications. For example, a patient may experience bleeding, infection, or nerve damage after surgery. In some cases, the procedure may not be successful and the patient's health may even deteriorate as a result.

Iatrogenic health conditions can also occur due to misdiagnosis or failure to diagnose a health condition. When a patient is misdiagnosed or their condition is not properly diagnosed, they may receive inappropriate treatment or no treatment at all, leading to negative consequences for their health.

Preventing iatrogenic health conditions is an important goal in the healthcare industry. One way to do this is through the use of evidence-based practices and guidelines, which can help to ensure that patients receive the most appropriate and effective treatments. In addition, ongoing education and training for healthcare professionals can help to reduce the risk of iatrogenic health conditions by keeping them up-to-date on the latest research and best practices.

Most Common Iatrogenic Conditions

There are many different types of iatrogenic health problems that can occur, and the most common ones may vary depending on the specific population or healthcare setting. Some common examples of iatrogenic health problems include:

- **Adverse drug reactions:** These are negative effects that can occur when a patient takes a medication. Adverse drug reactions can range from minor side effects, such as nausea or dizziness, to more serious complications, such as organ damage or death.[2]
- **Surgical complications:** Surgical procedures carry risks and potential complications, such as bleeding, infection, or nerve damage. In some cases, the procedure may not be successful and the patient's health may even deteriorate as a result.[3]
- **Misdiagnosis or failure to diagnose:** When a patient is misdiagnosed or their condition is not properly diagnosed, they may receive inappropriate treatment or no treatment at all,

leading to negative consequences for their health.

- **Medical errors:** These are mistakes that can occur during the delivery of healthcare, such as incorrect medication doses or administering the wrong medication. Medical errors can lead to serious harm or even death for patients.[4)]
- **Nosocomial infections:** These are infections that patients acquire while receiving treatment in a healthcare facility, such as a hospital or nursing home. Nosocomial infections can occur due to a variety of factors, including poor hand hygiene, contaminated surfaces, or the use of contaminated medical equipment.[5)]
- **Overuse of medical interventions:** In some cases, patients may receive unnecessary or excessive medical interventions, such as unnecessary tests or procedures, which can lead to negative effects on their health.[6)]

It's important to note that while these are some common examples of iatrogenic health problems, this list is not exhaustive and there are many other types of iatrogenic health problems that can occur.

Examples of Iatrogenesis from Psychiatric Medications

Oculogyric Crisis

Oculogyric crisis (OGC) is a type of movement disorder that is characterized by sustained or intermittent involuntary upward deviation of the eyes. It is also called a “dystonic storm” and is considered a subtype of dystonia. OGC is a relatively rare complication of antipsychotic medication use, although it is more common with some specific medications such as fluphenazine and haloperidol, also OGC has been observed in some cases with other psychotropics such as antidepressants, Lithium, and phenothiazines.

Symptoms of an oculogyric crisis can include:

- Sustained upward deviation of the eyes
- Inability to move the eyes downward
- Difficulty with eye closure
- Blurred vision
- Light sensitivity
- Headache

OGC can be distressing and disorienting for the person and can make it difficult for them to read, watch television, or even have a conversation. The episode of OGC can last from several minutes to several hours and can be relieved by treatment with anticholinergic drugs such as benztropine, diphenhydramine, or procyclidine. In some cases, it can also be relieved by decreasing the dose of the medication or stopping the medication.

It's important for healthcare professionals to be aware of the potential for OGC when prescribing antipsychotic medications, and to monitor for symptoms. If OGC is suspected, the medication should be adjusted or discontinued and treatment should be started immediately.

Dystonia

Iatrogenic dystonia is a type of movement disorder that is caused by certain medications, particularly neuroleptics and other psychotropics. It is a form of dystonia that is characterized by muscle spasms, cramps, and contractions that cause abnormal postures and movements.

Symptoms of iatrogenic dystonia can include:

- Sustained muscle contractions that cause abnormal postures or movements
- Spasms, cramps, and tremors in the face, tongue, neck, or other parts of the body
- Difficulty with speaking or swallowing
- Difficulty with eye movement
- Muscle stiffness or rigidity
- Fatigue

Iatrogenic dystonia can range from mild to severe, and the symptoms can vary widely from person to person. It can develop within days or weeks of starting the medication or after several months or years of treatment.

The most common medications associated with causing iatrogenic dystonia are neuroleptics, but it also can be caused by other drugs such as antidepressants and lithium.

Treatment typically includes decreasing the dose of the medication, changing the medication, or stopping the medication. Additionally, anticholinergic drugs, such as benztropine, diphenhydramine, or procyclidine can be used to help relieve the symptoms. In some cases, physical therapy may also be beneficial to help manage the symptoms.

Tardive Dyskinesia

Tardive dyskinesia is a neurological disorder characterized by repetitive, involuntary movements of the face, tongue, and other parts of the body. The exact cause of tardive dyskinesia is not well understood, but it is believed to be related to the long-term use of certain medications, particularly antipsychotics.

Signs and symptoms of tardive dyskinesia can include:

- Involuntary movements of the tongue, lip, face, jaw, and/or limbs
- Lip smacking or puckering
- Rapid eye blinking
- Rapid or jerky movements of the arms and legs
- Stiffening of the limbs
- Uncontrolled twisting of the body

Other symptoms may also include difficulty with speaking and swallowing, as well as emotional and cognitive changes such as depression and memory problems.

Risk factors for tardive dyskinesia include older age, long-term use of antipsychotic medications, high doses of the medication, and a history of other movement disorders. It is more prevalent in older adults and those with schizophrenia, bipolar disorder or depression.

It's also important to note that not all people who take antipsychotics will develop tardive dyskinesia, and that symptoms can vary widely from person to person. Consultation with a medical professional is necessary to know if any observed movements are tardive dyskinesia.

Tardive Akathisia

Tardive akathisia is a form of tardive dyskinesia characterized by a feeling of restlessness, agitation, and an overwhelming urge to move. This can manifest as a constant shifting of weight from one foot to the other, pacing, or an inability to sit or stand still. Like tardive dyskinesia, it's caused by the long-term use of certain medications, particularly antipsychotics.

Symptoms of tardive akathisia can include:

- Restlessness
- Agitation
- An urge to move
- Inability to sit or stand still
- Constant shifting of weight from one foot to the other
- Pacing
- Anxiety
- Insomnia

Symptoms of tardive akathisia are often more distressing for the person than the visible motor symptoms of tardive dyskinesia. This can make it difficult for people to sit through meetings, eat meals, watch television, or even to have a conversation. This can also lead to emotional distress, depression and other issues.

Like tardive dyskinesia, the risk of developing tardive akathisia is increased with the long-term use of antipsychotics, high doses of the medication, older age, and a history of other movement disorders.

It's important to note that Tardive dyskinesia and tardive akathisia are both related to antipsychotic medication but they are different conditions and can appear together as well. Consultation with a medical professional is necessary to determine the exact diagnosis and appropriate treatment if any observed movements or feelings are tardive dyskinesia or tardive akathisia.

Tardive Dementia

Tardive dementia is a rare and controversial condition that is characterized by cognitive impairment and other symptoms of dementia that occur as a result of long-term use of certain medications, particularly antipsychotics. The cognitive impairment seen in tardive dementia can include memory loss, confusion, and difficulties with attention, language, and executive function. Other symptoms of tardive dementia can include depression, anxiety, and emotional blunting.

The exact cause of tardive dementia is not well understood and is still a matter of scientific debate. While some studies have suggested a link between the long-term use of antipsychotics and cognitive decline, other research has not found any significant association between the two. It is also possible that tardive dementia is a subtype of neuroleptic-induced tardive dyskinesia.

It's important to note that while tardive dementia is a rare condition, people who take antipsychotics

for a long period of time may have an increased risk of cognitive decline and dementia, as well as other neurological side effects.

Iatrogenic Parkinson's Disease

Iatrogenic Parkinson's disease (IPD) is a form of Parkinson's disease that is caused by certain medications, rather than by the underlying degeneration of brain cells that is seen in idiopathic (or primary) Parkinson's disease. The most common cause of IPD is the use of drugs called neuroleptics, which are commonly used to treat psychiatric disorders such as schizophrenia and bipolar disorder.

IPD can develop as a side-effect from long-term use of these medications, although the exact mechanism is not fully understood. However, it is thought that the drugs may cause damage to the dopamine-producing cells in the brain, which leads to Parkinson-like symptoms. Symptoms include tremors, stiffness, difficulty with coordination, difficulty with movement and balance, and difficulty with fine movements.

Symptoms of IPD may appear weeks, months or even years after starting the medication. The symptoms of IPD are similar to those of primary Parkinson's disease, but the progression of the disease may be different. In some cases, the symptoms may be reversible if the medication is stopped, but in other cases, the symptoms may be irreversible.

It is important for medical professionals to be aware of the potential for IPD when prescribing these types of medication and to monitor for symptoms. If symptoms appear, the medication may need to be adjusted or stopped. Alternative treatment options should be considered and other Parkinson like symptoms should be ruled out. Consultation with a neurologist or Parkinson's disease specialist is necessary for the proper diagnosis and management of IPD.

Neuroleptic Malignant Syndrome

Neuroleptic malignant syndrome (NMS) is a serious and potentially life-threatening side effect of certain medications called neuroleptics, which are commonly used to treat psychiatric disorders such as schizophrenia and bipolar disorder. NMS is a rare but severe reaction to these medications and it occurs in less than 1% of people who take them.

Symptoms of NMS can include:

- High fever
- Muscle rigidity
- Stiffness
- Tremors
- Sweating
- Changes in blood pressure and heart rate
- Confusion and disorientation
- Delirium
- Coma

The exact mechanism of NMS is not well understood, but it is thought to be related to changes in the levels of certain chemicals in the brain, such as dopamine. NMS is considered to be a medical emergency and treatment should be started as soon as possible. Treatment typically includes the

discontinuation of the medication, supportive care, and the use of medications to lower fever and muscle rigidity, such as dantrolene and bromocriptine.

It's important for healthcare professionals to be aware of the symptoms of NMS and to monitor for it when prescribing neuroleptic medications. If NMS is suspected, the medication should be discontinued and treatment should be started immediately. While NMS is a serious condition, it is rare, and early diagnosis and management can lead to a full recovery.

Serotonin Syndrome

Serotonin syndrome is a potentially life-threatening condition that occurs when there is an excessive amount of the neurotransmitter serotonin in the body. This can happen as a result of taking certain medications, such as antidepressants, that increase serotonin levels, or from taking multiple medications that affect serotonin levels in combination.

Symptoms of serotonin syndrome can include:

- Agitation and restlessness
- Confusion
- Increased heart rate and blood pressure
- Dilated pupils
- Loss of muscle coordination
- Tremors
- Sweating
- Headaches
- Diarrhea
- Shivering
- High fever

In severe cases, serotonin syndrome can lead to seizures, muscle rigidity, and loss of consciousness. It is considered a medical emergency and requires prompt treatment. Treatment may include discontinuation of medications that increase serotonin levels, supportive care, and the use of medications to reduce symptoms such as muscle rigidity and seizures.

It is important for healthcare professionals to be aware of the potential for serotonin syndrome when prescribing medications that affect serotonin levels, and to monitor for symptoms when patients are taking multiple medications that may interact with each other. If serotonin syndrome is suspected, the medication should be discontinued and treatment should be started immediately. With prompt recognition and management, most people make a full recovery.

Other Iatrogenic Conditions from Psychiatric Medications

There are several other iatrogenic conditions that can be caused by psychiatric drugs, including:

- **Weight gain and metabolic changes:** Some antipsychotics, antidepressants and mood stabilizers can cause weight gain and changes in blood sugar and cholesterol levels, which can increase the risk of obesity, diabetes and cardiovascular disease.
- **Sexual dysfunction:** Some antidepressants, especially selective serotonin reuptake inhibitors (SSRIs) can cause sexual dysfunction, such as difficulty achieving or maintaining an erection,

difficulty with orgasm and decreased libido.

- **Gastrointestinal problems:** Some antidepressants, antipsychotics and mood stabilizers can cause gastrointestinal side effects, such as nausea, diarrhea and constipation.
- **Sedation and drowsiness:** Some antipsychotics, antidepressants and mood stabilizers can cause sedation and drowsiness, which can impair cognitive and motor function and increase the risk of accidents.
- **Hormonal imbalances:** Some antidepressants can cause hormonal imbalances, including changes in thyroid function and prolactin levels, which can affect metabolism, mood, and other bodily functions.

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[1)] IatrogenesisWikipedia
[2)] Adverse drug reactionWikipedia
[3)] SurgicalWikipedia
[4)] Medical errorWikipedia
[5)] Hospital-acquired infectionWikipedia
[6)] OvermedicationWikipedia