



## **A Case Report: Young Adult with Drug Treatment-Resistant Depression-Induced Suicide Attempt Successfully Treated with Electroconvulsive Therapy**

**Denada Florencia Leona**

RSUP dr. M. Djamil Padang/Medical Faculty of Andalas University, Padang, Indonesia

Email: Denadaflorencia@gmail.com

### ***Abstract***

*Major depressive disorder is a serious mental problem that negatively affects a person's emotions, mind, and actions. A suicide attempt is an attempt to end a life that does not end with death but self-harm. People with major depressive disorder are at the highest risk of suicide. This case study shows what can be seen in a suicide attempt patient with an underlying treatment-resistant major depressive disorder. We present a case of a young female with a treatment-resistant major depressive disorder that induces suicide attempts. We found that adultery, disability child, and poverty had triggered major depression in her. Her family history of suicidal attempts is suspected to be also related to her suicidal behavior. She had no response to medications but showed good improvement after being treated with ECT. Further studies are needed to understand better the association between major depression in young adults, suicidal behavior, and medication resistance.*

**Keywords:** *Major depressive disorder, Psychosis Symptoms, Adultery, Drug Treatment Resistance, ECT*

### **1. INTRODUCTION**

Depression is a mental illness that affects mood and causes patient passions of sadness, loss of happiness, and loss of interest in diurnal conditioning. patient low mood, loss of interest in pleasurable activity, guilt and worthlessness, lack of energy, difficulty concentrating, loss of appetite, weak motor ability or restlessness, insomnia or intent self-murder are symptoms that psychiatrists may find in depressed cases. The presence of these symptoms can determine the inflexibility of the depression. According to the Diagnostic and Statistical Manual of Mental diseases, Fifth Edition (DSM- 5), to diagnose major depressive disorder, which is the most severe form of depression, a case must have at least five of the following below symptoms (Teruo, et al. 2022).

A major depressive illness includes symptoms of depression, generally affecting the capability to work, sleep, study, and eat for at least two weeks in utmost cases. Major depressive illness was the most common cause of self-murder. A Swedish epidemiological study showed that depression was associated with an increased threat of suicide attempt. Former studies in Western countries reported major depression as one of the threat factors for a suicidal attempt. The threat factors for major depressive disorder with suicidal attempts are a family history of psychiatric history of other physical diseases, adverse life events such as severance and infidelity, comorbidities with anxiety diseases, early onset, more frequent depressive occurrences, and increased hospitalizations. (Whisman, 2016).

Depression is able to occur at any age, but it usually appears in adulthood. Depression, often seen in children and adolescents, sometimes manifests as irritability

rather than a gloomy mood. Most mood disorders, such as depression in adults, begin with high levels of anxiety in childhood. Young adulthood (between the ages of 15 and 35) is an important period in a person's life as it forms the bridge between adolescence and adulthood. During this time, young people have to deal with family and community expectations. When these expectations are not met, problems such as poor mental health and unhealthy behaviors can arise. In addition, depression in youth is one of the predictors of suicide. (Nurul, et al. 2021).

In previous cross-sectional studies, depression in young adults was associated with sleep disturbances, decreased life satisfaction, poor health, and stressful life events. Several demographic factors such as low socioeconomic status, low subjective social status, and female gender are also associated with depression. In addition, many childhood and adolescent experiences, including family problems, may contribute to the development of depression in adulthood.<sup>3</sup> A study by Whisman (2015) found that one of the key events associated with major depression in adolescents is the discovery of an adulterous partner, especially a married partner. Research shows that compared with people who didn't find out about the affair, those who said their partner was having an affair had higher rates of major depressive disorder and suicidal ideation. (Whisman, 2016)

Most types of depression can be treated with medication, even in the most severe cases. The earlier treatment is started, the more effective it is. Psychiatrists can often treat depression with medication, psychotherapy, or both. If these treatments do not relieve symptoms, a psychiatrist may consider electroconvulsive therapy (ECT) or other brain stimulation treatments. The latest study strongly recommends electroconvulsive therapy (ECT) for major depressive disorders that have not responded adequately to drug and other treatments. Most patients who are resistant to antidepressants and psychotherapy show improvement after ECT treatment. In other words, ECT could have a greater impact than any of the commonly used methods of treating depression (Teruo, et al. 2022). This case report will present and discuss a case involving a young patient who had suicidal ideation due to treatment-resistant depression and was successfully treated with electroconvulsive therapy.

## **2. CASE PRESENTATION**

A 32-year-old female was admitted to the emergency unit in our hospital, taken by her family with principal complaints being daydreaming all day long and attempting to kill herself. She was found in her room, trying to cut her hand. She did not know why Her husband's family took her to the hospital because she felt she had no health problem. Her current appearance in the hospital looked messy and unkempt. Previously, she got into a fight with his husband and ended up with him leaving the house because she suspected him of having a mistress at his workplace. She felt her husband was not attentive and had a different attitude towards her the last few months. She felt that on the wall of her house, CCTV was showing her husband cheating at his workplace and that her husband's colleagues were whispering to her about her husband's affair. The Physician's direct interview with the patient's husband confirmed that he once had an affair with his co-worker. Still, her husband said it happened long ago, and now they no longer have a relationship. Her husband said he had been currently focusing on work because they were experiencing economic difficulties in paying for the therapy of their disabled child. Her husband said he always came home, never spent the night outside the house, and tried to show affection to his wife even though she accused him of having an affair. However, his

wife did not believe him. She would not even serve him to have sex. Her husband said he could no longer stand his wife's behavior, so he decided to leave the house.

Since she felt her husband was cheating on her, she began to feel sad every day, had trouble sleeping, worried about uncertain things, and felt fatigued. These symptoms have lasted more than two months. When her family-in-law went to the patient's house, the house was messy, dirty, and neglected. She began to abandon her children and refuse to eat. Her children were taken care of by her parents-in-law. She has one disabled child with mental retardation and an ear defect. She also has a sister who was diagnosed with schizoaffective: depression type. Her sister had attempted suicide as well. The patient tried to kill herself twice. The first was by trying to drink insecticide fluid, and the second was using a razor blade to cut her wrist, but her mother prevented all the attempts.

The patient was hospitalized, and then she was given antidepressant medications with different mechanisms, such as selective serotonin reuptake inhibitors (SSRIs) and Sertraline once a day with an initial dose of 50 mg. The sertraline dose was increased weekly by 25 mg until it reached 150 mg once daily because the symptoms didn't seem to improve. Olanzapine was also given as a supplemental drug to improve the curative effect at the dose of 10 mg once a day. The patient was still restless and had frequent tantrums and suicidal ideas after the drug treatment. The patient even needed to be chained because of the continuous tantrums. Even though enough period of treatment, which was about two months, she was treated with a systematic antidepressant procedure with sufficient doses and time, her symptoms did not seem to get better.

She was then given six consecutive sessions of Electroconvulsive Therapy (ECT) with anesthesia after being diagnosed with Treatment-Resistant Depression. Her psychiatrist gave the ECT sessions three times a week until the completion of 6 treatment times. She showed improvement in every session, and The patient reached the best condition after the last session. Even though negative thoughts were present, she did not show any negative behavior. ECT diminished her suicidal behavior, and her insight into the illness existed.

### 3. DISCUSSION

Depression is a serious mental illness, yet it is a common disease. It causes severe symptoms that affect the way a person feels, thinks, and copes with daily activities such as sleeping, eating, and working. Depression can be diagnosed if someone has symptoms that last for at least two weeks. The most severe form of depression is major depressive disorder (MDD) (Whisman, 2016). MDD is characterized by persistent low mood or depression, anhedonia or decreased interest in enjoyable activities, even loss of interest in pursuing daily activities, lack of energy, difficulty concentrating, changes in speech taste, psychomotor retardation or restlessness and lack of sleep. MDD can be accompanied by suicidal ideation and symptoms of a mental disorder such as delusions (false fixed beliefs that are different from reality) or hallucinations (hearing or seeing things that others don't see). or not heard). (Teruo, et al. 2022).

In this case, the patient was persistently sad, worried excessively about many things, and was very interested in daily activities. Patients also do not want to take care of themselves, their home, and their family. She also refused to eat. Her appearance is disheveled and disheveled, which shows that she doesn't care about herself. She also did suicide attempts twice with different ways. All of these symptoms persisted for more than two months. Based on the patient's and family's clinical history, as well as a psychiatric examination, the patient was diagnosed with major depressive disorder. In addition, the patient also suffered from visual hallucinations, when she watched CCTV footage on the

wall of her home showing her husband having an affair with a colleague. This hallucination led to the patient being diagnosed with MDD with symptoms of psychosis, the most severe form of depression (Nurul, et al. 2021).

The causes of major depressive disorder are multifactorial, including biological, genetic, environmental, and psychosocial factors. It was previously thought that MDD was primarily caused by abnormalities in neurotransmitters, particularly serotonin, norepinephrine, and dopamine. The patient has an older sister who suffers from schizophrenia, one of the most serious mental illnesses. Therefore, the presence of major depressive disorder with psychotic symptoms may be related to the patient's sister's mental illness. Biological familial genetics is one of the factors that can predispose a person to major depression. (Nurul, et al. 2021).

Life events have also been shown to play an important role in depression. In this case, the great argument between the patient and her husband marked a turning point in her life, exacerbating her condition. Before that, she suspected that her husband was having an affair, so gradually the symptoms of depression began to appear. Research by Whisman (2020) indicates that the circumstances surrounding the discovery of infidelity between partners can influence a person's response (Teruo, et al. 2022). For example, a partner's reaction can affect the mental health of the person who found out about the affair. In this case, where the patient's husband threw a drink at the patient when the patient accused him of cheating, his response was an example of a very poor response from a partner. This reaction causes the patient to become worse and more depressed. Much of the literature links stressful life events, such as infidelity, with the onset, severity, and progression of depression. After discovering an affair, a person may feel humiliated. The term "humiliation" has been used to describe events that cause a person to be demeaned. (Whisman, 2016).

The patient is a 32-year-old young man. According to research by Purborini (2020), in Indonesia, depression often occurs in young people. Depression at a young age is also strongly associated with suicidal ideation (Ming, L. et al 2004). Attempted suicide (AS), one of the major suicidal behaviors, is defined as self-harm to end one's life. According to Hui et al. (2021), major depressive disorder increases the risk of suicidal ideation in young adults. Suicide attempts or ideas are part of the psychiatric emergencies that can occur in the case of MDD. Thus, a suicide attempt indicates that the patient should be hospitalized for better treatment.

Resistance to first-line psychotherapy and psychotropic drugs is common in young people (Hetrick, et al. 2011). In this case, the patient did not respond to maximum antidepressant use. This patient has been on drug therapy for more than two months, which means that the patient can be classified as resistant. According to the TORDIA study, treatment resistance was the inability to respond to medication for at least 8 weeks of treatment, such as treatment with an SSRI (Voineskos, et al. 2020). This case is also consistent with a study by Hetrick et al. (2011) that most adolescents treated with recommended drugs do not achieve remission even with medication according to guideline recommendations. (Medscape, 2021).

Therefore, this patient was given ECT treatment because the drug treatment and psychotherapy had failed. In line with Kellner et al. (2016) study, which showed that second or third-line treatment proved effective in curing major depressive disorder with suicidal attempts is ECT. Electroconvulsive therapy (ECT) is a treatment that uses electrical stimulation to induce a generalized seizure in the patient. According to Ming li et al. (2020) study, by using acute series of ECT in 253 MDD patients without drug treatment, they had a relatively high-speed recovery, especially with the disappearance of suicidal ideation (Karayagmurlu, et al. 2019). This patient also showed significant

improvement after a series of ECT therapy in her symptoms, such as tantrums, anxiety, and a death wish, which slowly disappeared. The patient has also begun to realize that she needs to be treated.

#### 4. CONCLUSION

We reported a case of a young woman with major depressive disorder, psychosis symptoms, and suicidal attempts. She was resistant to antidepressants. The patient suffered from depression because many factors, such as a partner affair, the presence of a family with a mental disorder, and a child with disabilities, triggered it. The patient finally responded to ECT treatment with significant changes in her symptoms, such as her tantrums disappearing, her anxiety decreasing, and her suicidal ideation disappearing. The patient was also finally aware that she had a psychiatric illness.

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#### 5. REFERENCES

- Hetrick SE, Cox GR, Merry SN. 2011. Treatment-resistant depression in adolescents: is the addition of cognitive behavioral therapy of benefit? *Psychol Res Behav Manag.* P;4:97-112. doi: 10.2147/PRBM.S13780.
- Hui C, Wen L, Xia C, Peiqu L, Jiali L, et al. 2021. The Association Between Suicide Attempts, Anxiety, and Childhood Maltreatment Among Adolescents and Young Adults With First Depressive Episodes. *Front. Psychiatry, Sec. Child and Adolescent Psychiatry.* <https://doi.org/10.3389/fpsyt.2021.745470>
- Karayagmurlu A, Coskun M, Elboga G, Ghaziuddin, N, Karayagmurlu, E, Gokcen, C, et al. 2019. Efficacy and safety of electroconvulsive therapy in adolescents: a retrospective chart review study from turkey. *J. ECT.* doi: 10.1097/YCT.0000000000000602
- Kellner, CH, Husain M, Knapp RG, McCall, WV, Petrides G, Rudofer MV, et al. 2015. A novel strategy for continuation ECT in geriatric depression: phase 2 of the PRIDE study. *Am J. Psychiatry*;173:p1110-1118. Doi: 10.1176/appi.ajp.2016.16010118
- Medscape. Sertraline (rx). [cited in 2021 December 1. Available from: <https://reference.medscape.com/drug/zoloft-sertraline-342962>.
- Ming L, Xiaoxiao Y, Lihua S, Lihong Z, Wenbo X, et al. 2020. Effects of Electroconvulsive Therapy on Depression and Its Potential Mechanism. *Front. Psychol., Sec. Health Psychology.* <https://doi.org/10.3389/fpsyg.2020.00080>
- Nurul P, Ming-Been L, Hilda MD, Hsiu-Ju C. 2021. Associated factors of depression among young adults in Indonesia: A population-based longitudinal study. *Journal of the Formosan Medical Association.* ;120 (Vol: 7. <https://doi.org/10.1016/j.jfma.2021.01.016>.
- Available from: <https://www.sciencedirect.com/science/article/pii/S0929664621000383>
- Teruo T, Kazuyuki Y, Shintaro W, Akifumi I, Koichiro W, Takefumi S. 2022. A 93-year-old patient with major depressive disorder successfully treated with electroconvulsive therapy: A case report and review of the literature: Electroconvulsive therapy in a 93 y.o. patient, *Psychiatry Research Case Reports*;1(vol):1. <https://doi.org/10.1016/j.psycr.2022.100003>.
- Available from: <https://www.sciencedirect.com/science/article/pii/S2773021222000037>

- Whisman MA. 2016. Discovery of a Partner Affair and Major Depressive Episode in a Probability Sample of Married or Cohabiting Adults. *Fam Process*. Dec;55(4):713-723. doi: 10.1111/famp.12185.
- Voineskos D, Daskalakis ZJ, Blumberger DM. 2020. Management of Treatment-Resistant Depression: Challenges and Strategies. *Neuropsychiatr Dis Treat*. Jan 21;16:221-234. Doi: 10.2147/NDT.S198774.