**Alcohol Use Disorder: A Case Study of Jax**

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In the case of Jax, who is a 66-year-old Caucasian female, the focus is on alcohol dependence that has recently interfered with her daily functioning and interpersonal relationships. Her wife has complained to her about Jax’s crankiness and penchant for getting into arguments when he drinks; in addition, Jax has fallen twice when drunk, the second time sustaining a head wound. Jax also states that he regularly drinks about one six-pack of beer per day while stressing that he no longer gets the same level of what he refers to as a ‘buzz’ as before, pointing to alcohol tolerance (Ariesen et al., 2023). Notably, Jax specifically rejects the existence of withdrawal symptoms like ‘the shakes’ once she stops consuming alcohol.

**Presenting Problems and Missing Information**

The key issues in Jax’s case are the features of Alcohol Use Disorder (AUD) like increased tolerance to alcohol, putting herself in risky situations, such as falling, impaired memory when intoxicated, and marital tension because of her drinking (Ariesen et al., 2023). Her encouragement can be attributed to external motivation, but it is still unclear if Jax has the intention of decreasing alcohol consumption. While Jax strictly refutes having some withdrawal symptoms, more data is required to determine the severity of her alcohol consumption and possible dependency. These considerations include the extent of the time that she drank more often, whether she is experiencing any psychological manifestations such as mood swings or guilt, any history of trauma or family alcohol use disorders, and her overall liver and general health and well-being, including fall risk, given her age.

**Primary and Differential Diagnoses**

A primary diagnosis can be made using the DSM-5 criteria for Alcohol Use Disorder (AUD) (Ariesen et al., 2023). AUD requires the presence of at least two of the following within 12 months: binge drinking, attempts to reduce the amount consumed without success, desire to reduce the substance use, experiencing tolerance and withdrawal symptoms, and continued substance use regardless of adverse effects. Jax also meets the criteria for AUD, as evidenced by his alcohol tolerance, experiencing memory blackouts, relationship problems, and indulging in risky behaviors.

**Primary Diagnosis**

Alcohol Use Disorder, Moderate (F10.20): Jax also embodies tolerance, elevated drinking, relational problems connected with alcoholic consumption, and risky conduct under the influence (Merikangas et al., 2022). These symptoms are characteristic of a moderate level of AUD according to the DSM-5 and ICD-10 codes.

**Differential Diagnoses**

In her case, symptoms like irritability, argumentativeness, and memory loss point to several instances of Alcohol Intoxication (F10.129), especially with her recent rise in alcohol consumption. These are some of the typical behavioral changes that people display when they are intoxicated. Furthermore, there are no previous indications of anxiety in Jax. However, the possibility of developing Generalized Anxiety Disorder (F41.1) should be considered, given the presence of anxiety symptoms during or after abuse. If anxiety emerges during her treatment or withdrawal, this diagnosis could be considered since alcohol both suppresses and unmasks anxiety disorders (Ariesen et al., 2023).

**Physiological and Psychological Processes Leading to Substance Dependence**

Alcohol use disorder, for instance, is a type of substance dependence that is marked by alterations in the brain's reward system. Alcohol increases the level of dopamine in the brain. It releases pleasure, but as the individual continues to use alcohol, the brain reduces dopamine levels and changes the way neurotransmitters such as GABA and glutamate function, resulting in the development of tolerance (Popescu et al., 2021). Therefore, this implies that in order to achieve the same level of intoxication, the consumer uses more of the alcohol. Another example of this adaptation is that the amount of alcohol consumption by Jax is now more frequent but does not have the same effect as before. From a psychological point of view, she may be self-medicating due to transitional life events like retirement. In the long run, this leads to stress and its management through alcohol, developing an urge and compulsion to continue the habit, hence forming the dependence cycle.

**Treatment Considerations**

Measures for the treatment of Jax would focus on the moderation of alcohol and making sure that she does not get into withdrawal symptoms. Based on her absence of withdrawal symptoms in the past and her relatively low levels of physiological dependence, she should be suitable for outpatient treatment. Including Cognitive Behavioral Therapy (CBT) in the treatment plan would enable her to identify the cues to drink and adopt better ways of handling stress (Bourdon et al., 2023). Moreover, the couple might need therapy to cope with the relationship issues that arise from her drinking. Some drugs might be effective in treating alcohol dependence; these include naltrexone or acamprosate to help decrease cravings and overall alcohol intake. Careful observation of Jax's liver function is also warranted, given her age and the susceptibilities of the liver to alcohol effects.

**Conclusion**

In conclusion, Jax has moderate alcohol use disorder, and the two main aspects that point toward this diagnosis are tolerance and social problems, including her marriage. Although there are no withdrawal symptoms, it is essential to consider other aspects of her drinking history, psychological condition, and readiness for treatment to determine the adequate treatment strategy. Behavioral therapies, positive reinforcement strategies, and potential medication for managing cravings and rehearsing non-use should be the most suitable approach.

**References**

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