

# Alcohol Withdrawal Syndrome Presenting as Stroke in Young

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**Abstract:** Stroke is a significant public health issue, ranking as the fifth leading cause of death in the US and a major cause of mortality and disability. While predominantly affecting middle-aged and elderly populations, strokes among young adults are rising, accounting for 10%–15% of cases. Alcohol, as the most widely consumed substance of abuse, is a notable risk factor for ischemic and haemorrhagic strokes, among other cardiovascular complications. This case report presents a 30-year-old male with a history of chronic alcohol use who developed an acute infarct in the left parieto-occipital region during alcohol withdrawal. The patient exhibited cognitive and neurological impairments, including apraxia, anomia, and agnosia, with no prior history of significant comorbidities or withdrawal seizures. Imaging confirmed the infarct, and common stroke etiologies were ruled out, implicating alcohol abuse as a likely cause. This case underscores the need for heightened awareness of alcohol-related stroke risks in young adults and highlights the importance of timely diagnosis to avoid delayed treatment, particularly during withdrawal periods.

**Keywords:** stroke in young adults, alcohol withdrawal, ischemic stroke, alcohol abuse, parieto-occipital infarct

## 1. Introduction

Stroke is fifth leading cause of death in US and it is one of the major cause of mortality and disability (6). Stroke is disease common in middle aged and elderly patients but recently been noticed of increasing strokes in young adults (6). Strokes in young adults are uncommon, comprising 10%–15% of all stroke patients. Younger stroke patients have increased risk of death compared with the general population (7)(2). Alcohol is the most consumed substance of abuse worldwide and it is a risk factor for ischemic stroke, haemorrhagic stroke, atrial fibrillation, cardiac remodelling and heart failure (1)(3)(4). Moderate to high consumption of alcohol causes impaired fibrinolysis, increased platelet activation, blood pressure and heart rate (4).

Alcohol consumption has complex effects on myocardial infarction (MI) and ischemic stroke (1). Alcohol intoxication and stroke occur simultaneously, the signs and symptoms of stroke may be attributed to the effects of alcohol, leading to delayed stroke diagnosis and failure to perform reperfusion therapy. (7)

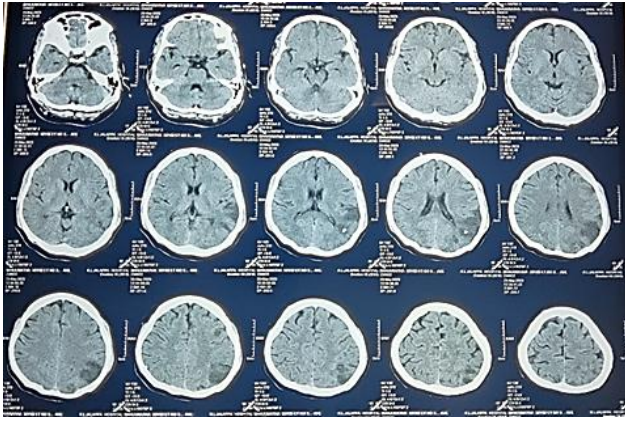
### Risk Factors

Hypertension, diabetes mellitus, heart disease, smoking most common risk factors (7).

## 2. Case

We report a case of normotensive and non-diabetic 30-year-old male with alcohol use in dependence pattern from 5-6 years. After he abstained from alcohol for 2 days, he

developed moderate intensity of headache over left side head along with some alcohol withdrawal symptoms and speech related concerns. He was hospitalised for inpatient care at a tertiary care hospital and initial evaluation revealed patient having difficulty in word finding, difficulty in performing simple learned tasks (apraxia), difficulty in naming of objects and persons (anomia), right-left confusion and difficulty identifying objects (agnosia) for 2-days. There was no history of head injury, vomiting, loss/alterd consciousness or motor or sensory weakness or chest pain reported. Also, there was no complicated withdrawal seizures or delirium either now or in the past. Clinical neurological evaluation of motor and sensory systems was within normal limits. His systemic examination, vitals and ECG were in normal limits. His CT scan brain revealed features of acute infarct of left parieto-occipital region. All the common causes for stroke in young was investigated and were found to be normal. Hence this stroke could be attributable to alcohol abuse. Hence this case report is being presented.



### 3. Discussion

Alcohol withdrawal commonly observed in hospital, but cases reported in literature of acute brain infarct during withdrawal period are sparse (5). Alcohol withdrawal state increased the risk of stroke and in this case, usual symptoms of withdrawal were minimum, rather it presented as parieto-occipital dysfunction secondary to stroke.

### 4. Conclusion

Strokes in young adults are a major public health problem and need further research (7). The recent trend of increasing strokes in young adults seems to be primarily driven by increase in ischemic strokes, in part it is mainly attributed to higher prevalence of modifiable risk factors like alcohol use (6)(3) Chronic daily alcohol exposure exacerbated MI-induced cardiac dysfunction (3). attributing the symptoms of stroke to alcohol intoxication may delay stroke diagnosis resulting in failure of reperfusion therapy (7). Among women, the protective effect of alcohol against MI was not evident in heavy amounts, and the risk of ischemic stroke began to increase at lower levels compared to men (1). Risk of ischemic stroke was increased within 2 hours after drinking. In long term use of alcohol – effects on ischemic stroke depends on the frequency and quantity of alcohol intake (4).

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