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Alcohol Withdrawal and Prolonged Hospital Stay in a Patient with Neuroimaging Abnormalities: A Case Report

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Abstract — A hospital stay of 30 days was required in a 47-year-old woman with alcohol withdrawal. Magnetic resonance imaging (MRI) findings revealed a focal brain stem lesion and multiple focal supracortical abnormalities. Could asymptomatic neuroimaging abnormalities predict risk of complicated alcohol withdrawal? Future clinical observations and longitudinal studies may wish to address this potential risk factor.

INTRODUCTION

Alcohol withdrawal can be complicated by the presence of delirium, hallucinations or the potentially fatal delirium tremens. Management in a specialized hospital setting is recommended for such conditions. The usual length of hospital stay in patients with alcohol withdrawal delirium is reported to be 9 days compared to 5 days for those with no complication. Delirium has been the greatest predictor of prolonged stay with a mean stay of 14.6 days (Foy et al., 1997).

In the following case, delirium persisted beyond the 20th day and required a hospital stay of 30 days. Magnetic resonance imaging (MRI) abnormalities were later discovered.

CASE REPORT

A 47-year-old woman, with no history of mental illness, was admitted to the surgical ward complaining of central abdominal pain and vomiting. She reported having been drinking alcohol up to 100 units a week. On admission her serum amylase was raised (650 IU/L), and liver function tests were slightly deranged. Vital signs were within normal limits and she had mild fever (38°C). Pancreatitis was managed conservatively, and the patient was prescribed standard chlordiazepoxide reducing regime along with parenteral vitamins. Her temperature remained between 37°C and 38°C for the first 10 days of hospitalization and then subsided to normal. Other vital signs were within normal limits.

Within 24 h of being in hospital, she insisted on leaving ‘this boat’ and talked of ‘being in the army’, getting married to socialites and described distorted faces of nurses. A CT scan showed mild atrophy. Haloperidol was added 5 mg/PRN and the initial impression was of alcohol withdrawal delirium. Her serum amylase normalized on the fifth day, and there were no ongoing symptoms of pain or vomiting.

The patient continued to be disorientated and to express strange and unusual thoughts and beliefs. Her Mini-Mental State Examination (MMSE) score on day 20 was 24/30 with deficits in recall, registration and visuospatial tests. MRI was recommended. Conservative treatment (no medicines from day 15) was continued and the patient recovered by day 30 and was discharged from hospital.

MRI was performed 2 months later. It showed ‘well-defined focal lesion—in upper brain stem and multiple focal supracortical lesions measuring about 2–3 mm in both cerebral hemispheres’. The appearance ‘corresponds to multiple small focal ischaemic lesions’ (Figs 1 and 2).

When the patient was assessed 5 months after her hospitalization, she had no cognitive deficits, no evidence of psychosis and was discharged from psychiatric services.

DISCUSSION

Risk factors predictive of complicated alcohol withdrawal are a history of fits or delirium tremens, very heavy use and
high tolerance, significant polydrug use, benzodiazepine dependence or severe co-morbid medical or psychiatric disorder (WHO, 2004). The Scottish Intercollegiate Guidelines Network (SIGN, 2003) has a longer but more discreet list of when hospital detoxification would be needed.

This patient had a high alcohol intake and presented with acute pancreatitis. Both are risk factors warning a complicated withdrawal. However, the pancreatitis resolved by the fifth day and was managed conservatively. All acute metabolic parameters were within normal range. The prolonged duration of delirium and its subsequent resolution on conservative management suggested further investigation.

The MRI findings described suggest that alcohol withdrawal that is prolonged or unusually complicated may need to be investigated further. However, asymptomatic neuroimaging abnormalities have not been discussed in either the World Health Organization (WHO) or SIGN guidelines. With the use of MRI expanding, and the detection of incident abnormalities increasing, clinicians can be faced with challenging clinical decisions about the risks of complicated alcohol withdrawal.

This case suggests that patients who are advised to stop alcohol but are known to have asymptomatic neuroimaging abnormalities may be at risk of complicated alcohol withdrawal. Future clinical observations and longitudinal studies may wish to address this potential risk factor.

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