

Rehabilitative and Pharmacological Treatment of Posterior-variant Alien Hand Syndrome

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INTRODUCTION

Alien hand syndrome (AHS) is a rare condition in which patients present with involuntary limb movements and a feeling of loss of limb ownership. It was first detailed in 1908 when a patient suffered a stroke and thereafter reported her left hand had a “will of its own” and grabbed her throat. The pathophysiology has not been completely elucidated. AHS is usually divided into three variants based on lesion location in the brain: Frontal, callosal, and posterior, with posterior being the rarest. There are currently no approved standardized treatments for AHS; Management is based on anecdotal interventions. The combination of clonazepam and therapy has shown improved quality of life when evaluated by clinical observation, functional independence measures, and patient-reporting.

CASE REPORT

A previously independent 54-year-old ambidextrous male with a history of peripheral vascular disease, hypertension, and uncontrolled diabetes presented to the hospital with frequent syncopal episodes and chest pain. He was diagnosed with subclavian steal syndrome. After undergoing subclavian stent placement, he was found to have left hemi-neglect, and imaging revealed a right parietal infarction. He subsequently displayed involuntary left arm movements including levitation and fist clenching. He was diagnosed with the posterior variant of Alien Hand Syndrome upon admission to inpatient rehabilitation.

Clonazepam 0.25 mg daily was started alongside therapy techniques, including compensatory distraction, mirror therapy, verbal cueing, and visual feedback. The patient demonstrated improvement by discharge as evidenced by patient-reporting, an increase in functional independence measure (FIM) from 49/126 to 80/126, and an improvement by 15 points on the Scale for Assessment and Rating of Ataxia (SARA) for the left hand.

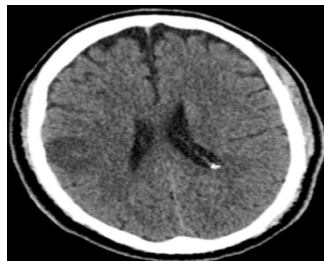


Figure 1. CT Brain

Activity (Left side)	Score (Admission)	Score (Discharge)
Finger chase	4	1
Nose-finger test	4	0
Fast alternating hand movements	4	0
Heel-shin slide	4	0

Table 1. SARA Scale

CONCLUSION

Our case provides a window into the role of rehabilitation and clonazepam in the treatment of posterior-variant AHS. More sensitive outcome measures are needed for the assessment of this condition. With increased awareness about AHS, practitioners will likely be able to make accurate diagnoses and appropriate interventions to improve patient function and quality of life.

DISCUSSION

The patient was diagnosed the rare posterior variant of alien hand syndrome based on the location of his stroke and corresponding upper extremity symptoms. Rehabilitation strategies and pharmacological treatment for AHS were employed based on both the available literature and his specific clinical presentation. Our patient was placed on clonazepam, which has demonstrated efficacy in anecdotal case reports. The patient progressed well with respect to functional use of his left upper extremity for ADLs as demonstrated by FIM score and SARA scale, which is a potentially valuable clinical assessment tool for ataxia.

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