

## A patient with SCA6 whose balance ability was improved by outpatient rehabilitation

Makoto Sawada<sup>1)\*</sup>, Shogo Usui<sup>1)</sup>, Tatsunori Murakami<sup>1)</sup>, Shin-ichi Morioka<sup>1)</sup>,  
Shin Nozaki<sup>1)</sup>, Hiroshi Takahashi<sup>2)</sup>

1) Department of Rehabilitation, NHO Tottori Medical Center

2) Department of Neurology, NHO Tottori Medical Center

\*Correspondence: m\_sawada@tottori-iryu.hosp.go.jp

### Abstract

We encountered an SCA6 patient whose balance ability was improved by physical therapy at outpatient rehabilitation. The patient was a male in his 50s with dysarthria and ataxia of the four extremities and trunk, but symptoms were mild and he was independent in daily life and working. Regarding the physical function, walking ability was relatively retained, but balance ability was reduced to a Berg balance scale (BBS) of 43. As a physical therapy program, in addition to once-a-week exercise therapy (relaxation and muscle strengthening and balance trainings), voluntary training (aerobic exercise, relaxation, and muscle strengthening training) was instructed. After a 6-month intervention, the BBS scale improved to 55. Tottori J. Clin. Res. 7(2), 155-160, 2016

Key Words: spinocerebellar ataxia (SCA), SCA type 6 (SCA6), outpatient rehabilitation, balance ability, Berg balance scale (BBS)

### Introduction

Spinocerebellar degeneration (SCD) is the collective name of neurodegenerative diseases developing ataxia as the main symptom with the main lesions in the cerebellum, brainstem, and spinal cord. The incidence of spinocerebellar ataxia type 6 (SCA6) is high accounting for about 30% of hereditary SCD cases in Japan. It mainly develops in middle age (40-50s) and manifests almost pure cerebellar ataxia, such as dysarthria, ataxia of the four extremities and trunk, and gaze-evoked nystagmus<sup>1)</sup>. A rehabilitation effect for SCD has recently been reported<sup>2,3)</sup>, but it was an effect of intensive inpatient rehabilitation. In the present case, balance ability was improved despite intervention being performed at only once a week.

### Case presentation

Patient: Male in his 50s

Diagnosis: SCA6

Chief complaints: Difficulty in walking and the necessity of a handrail for using the stairs.

Past medical history: lumbar spondylosis (childhood)

Occupation: School teacher

Familial medical history: His mother staggered during walking from about 50 years old and she was diagnosed with SCD.

History of present illness: He felt imbalance during playing tennis in X-3, and gradually became aware of staggering during walking (particularly while using the stairs). He visited Hospital A for a complaint of writing disturbance. SCD was suspected, and the patient was referred to the Neurology Department of our hospital.

After diagnosis at our hospital (Fig. 1), drug therapy (Ceredist 10 mg) was initiated. At the same time, outpatient rehabilitation was initiated.

Neurological findings: Scanning speech, bilateral slight unskillfulness on an upper limb finger-nose test, unskillfulness on a heel-knee test, ataxic gait, inability to perform tandem gait, Mann Test-positive, Romberg Test-negative, normal reflex, Babinski reflex-negative, no involuntary movement, no sensory disturbance including deep sensation

Summary: Pure Ataxia

Nutritional status: Ingestion of 3 meals with no problem with appetite or bowel movement