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Subscapularis muscle approach to scapulohumeral periarthritis accompanied by hemiplegia: Necessity of preventive approach

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Abstract

We encountered a patient with hemiplegia as a cerebral infarction sequela complicated by scapulohumeral periarthritis. Shoulder joint contracture occurred as pain aggravated, and application of active intervention became impossible. However, we considered the possibility that the spine-fixing power of the scapula decreased due to hemiplegia-associated hypotonia and caused compensatory hypertonia of the subscapularis muscle. When the subscapularis muscle was directly approached manually, pain was reduced and the range of motion was improved. We report the necessity of the subscapularis muscle approach from a preventive viewpoint based on the mechanism and treatment course of scapulohumeral periarthritis in the present patient. Tottori J. Clin. Res. 7(2), 140-XX, 2016

Key Words: hemiplegia, scapulohumeral periarthritis, subscapularis muscle

Introduction

The functional recovery pace from cerebrovascular disease-associated hemiplegia is not constant, and we often encounter cases in which functional problems which do not develop in acute-phase rehabilitation, such as pain, becomes marked in recovery-phase rehabilitation. Scapulohumeral periarthritis is defined as ‘collective name of diseases of unknown cause mainly developing pain and limitation of movement, and recovery takes about 6 months to one year[1)]. Generally, the prognosis is favorable in many cases, and thermotherapy and course observation with stretching are mainly performed, but when this is a complication of hemiplegia, it becomes a major obstacle to recovery-phase rehabilitation.

We approached a case of hemiplegia complicated by scapulohumeral periarthritis focusing on the subscapularis muscle and achieved a favorable outcome. We report the case with addition of knowledge.

Case presentation

The patient was a right-handed female in her 60s with cerebral infarction (Fig. 1)-associated right hemiplegia. After treatment at an acute-phase hospital for one month, she transferred to our recovery-phase ward, and intervention was initiated aiming at improvement of activities of daily living (ADL) and instrumental ADL (IADL) including acquisition of movement for her role, domestic work.

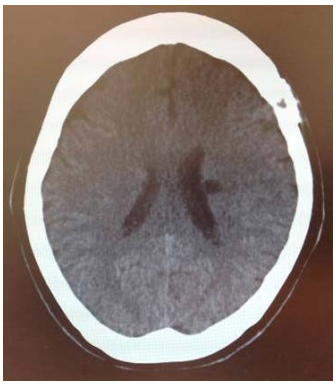

Fig.1. X-ray CT image
An X-ray CT image shows a small infarction in the corona radiata of the right cerebral hemisphere.

Initial evaluation

The Brunnstrom stages of the right upper limb and fingers were III, and that of the lower limbs was V, representing a level capable of walking with a cane. Severe flaccid paralysis was noted in the upper limb. The scapular alignment was abduction/depression. The shoulder joint was in an internal rotation position with anterior bending of