

## Stretch Reflex Induced Resting Tremor(SRIRT)

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### - Abstract -

It has been said that variable anatomical structures and neural circuits are related to the generation of tremor. There are cerebral cortex, thalamus, basal ganglia, inferior olivary nucleus, midbrain tegmentum, stretch reflex, and musculoskeletal structures. The stretch reflex is related with the physiologic tremor and various peripherally originated tremors. We experienced a case with the post-stroke resting tremor which was induced and aggravated by mechanical stretching stimulation. In the present case, stretch reflex has a major role in the generation and exacerbation of tremor. It is presumed that the development of tremor is attributed to the increased rhythmicity of ventral intermedius nucleus of thalamus. The enhancement of thalamic rhythmicity may be due to the increasement of long latency reflex by post-stroke rigidity. This case suggests that stretch reflex may have a major role in the pathophysiologic mechanisms of a certain centrally originated tremor.

**Key Words :** Stretch reflex, Tremor, Stroke

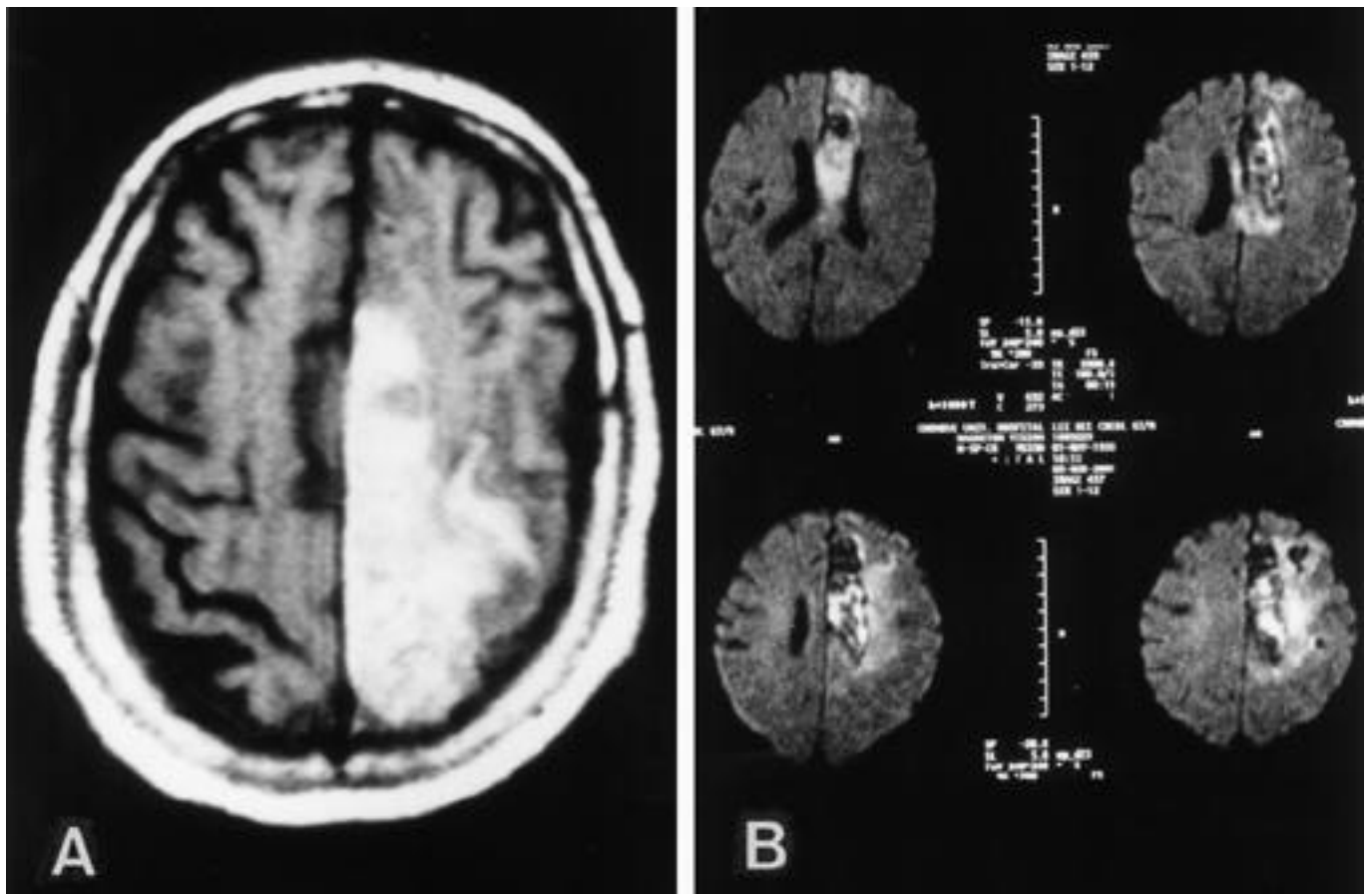
가  
 (cardioballistic oscillation),  
 (asynchronous, sturbtetanic motor  
 unit contractions), (passive  
 mechanical oscillation), (stretch  
 reflex oscillation), (oscillating  
 central neuronal networks)  
 가  
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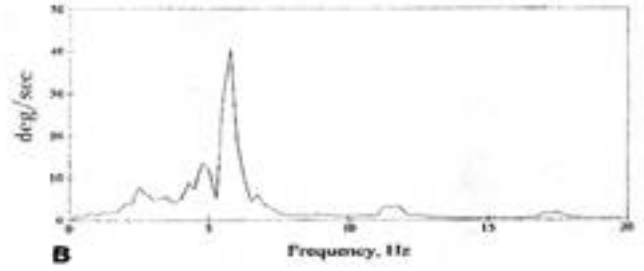
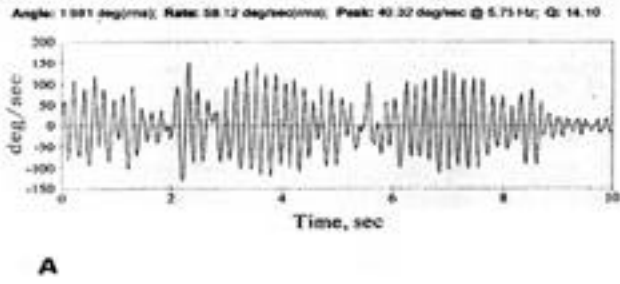
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67 가 4  
 170/110 mmHg,  
 66 / , 24 / , 36.8  
 가 (MRC grade II-)가 가  
 , 40 pack-year  
 가  
 2 가 1

1  
 (Fig. 1).  
 가 가 가  
 4-5Hz  
 1  
 58.12  
 deg/sec 가 5.75 Hz  
 (Fig. 2).  
 (cogwheel rigidity)  
 (grasp reflex)가  
 (palmomental reflex)가  
 2  
 grade II, grade III-



**Figure 1.** T1-weighted axial MR image shows subacute infarct with hemorrhagic transformation(hyperintensity) in the medial portion of left parietal lobe(A). Diffusion-weighted axial MR image shows acute infarct(hyperintensity) in the medial portion of left frontal lobe(B).



**Figure 2.** The angular rate strip chart(A) and the frequency spectrum strip chart(B) were measured in right hand after mechanical stimulation. A strip chart measures angular rate RMS(root mean square) of frequency components plotted against time. Spectra show angular rate RMS of frequency components plotted against frequency.

가 가 3

7

.8

(stretch reflex oscillator)

(aster-

ixis),

5

1

가 가

nesia)

(hypoki-

가

가

9

10

(corticostriatothalamic cortical loop)

가

가

가 (supplementary motor area, SMA)

6

가 가 intermedius(Vim)

가 nucleus ventralis Vim

가

1

Vim

가 가

,

가

Vim

Vim

11

가

Vim

,

Vim

가

가

Vim

Vim

12 Vim

가

3,4

가

