

## Summary

### Quantitative Evaluation of Esophageal Scintigraphy in Systemic Sclerosis

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**[Background]** Esophageal involvement by systemic sclerosis (SSc) is frequent. The purpose of this study was to evaluate esophageal motility disorders quantitatively. **[Methods]** We investigate esophageal scintigraphy in 22 patients with SSc. Esophageal scintigraphy was obtained with swallowing physiological saline in supine position, and swallowing soup in supine and sitting positions. Data was acquired with 0.5 sec per frame for 192 frames in the anterior view. We employed a condensed image as a visual evaluation, half-life and retention rate as a quantitative evaluation, which were obtained from time-activity curves generated from regions of interest on the whole esophagus. The half-life and retention rate were compared with

classification of Barnett, stages of SSc, and modified Rodnan total skin score (TSS). **[Results]** No significant differences were seen in classification of Barnett and the stages of SSc. No significant difference was seen between swallowing water and soup in the supine position. The retention rate was significantly prolonged in the supine position than in the sitting position. The retention rate of soup study in the sitting position correlated with TSS ( $r = 0.61$ ). **[Conclusion]** Esophageal scintigraphy in the sitting position is useful in evaluation of esophageal motility in SSc.

**Key words:** Systemic sclerosis, Esophageal scintigraphy, Quantitative evaluation, Retention rate, Half-life.