ABSTRACT

DIPP-Motion Pro 2D® software is a new computerized system for quantitative analysis of motion of an object on screen automatically. It has been reported that cineradiography has been performed to analyze hyoid and laryngeal movements during swallowing; however, due to cost and preparation time, this method has not yet reached the clinical application stage. To overcome these problems, we have devised a new computerized system for quantitative analysis of video fluorography images using commercial "DIPP-Motion Pro 2D® software.

INTRODUCTION

Cineradiography has made it possible to perform detailed visual analysis of the second stage of swallowing (hyoid and laryngeal movements). Due to cost and preparation time, this method has not yet reached the clinical application stage. To overcome these problems, we have devised a new computerized system for quantitative analysis of video fluorography images using commercial "DIPP-Motion Pro 2D® software.

METHODS AND MATERIALS

System

1. DV images are fed into the computer as animations and analyzed directly.
2. Numerous points can be marked, and tracked automatically.
3. 2D scale configuration on the display calculates the exact distance automatically.
4. With coordinate setting and scale correction, the distance and velocity of movement are measured automatically.
5. The functions that synchronize graphs with the video fluorography video makes it easy to have a proper visual understanding.

RESULTS

Movements of the hyoid bone and larynx horizontal direction (case 1)

 Movements of the hyoid bone and larynx vertical direction (case 1)

 THE CONCLUSIONS

We can analyze swallowing function conveniently and effectively with this system, and it displays the data with visual information. Therefore, it may become a tool to analyze swallowing function quantitatively in clinical practice. Furthermore, it helps us to effectively exchange information with other medical personnel and gain informed consent.

REFERENCES
