

***Abstract: Image Analysis of Endoscopic Ultrasonography in
Submucosal Tumor using Fuzzy Theory - Gastrointestinal Stromal
Tumor Cases***

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Abstract

Endoscopists usually make a diagnosis in the submucosal tumor depending on the subjective evaluation about general images obtained by endoscopic ultrasonography. In this paper, we propose a method to extract areas of gastrointestinal stromal tumor (GIST) and lipoma automatically from the ultrasonic image to assist those specialists. We also propose an algorithm to differentiate GIST from non-GIST by fuzzy inference from such images after applying ROC curve with mean and standard deviation of brightness information. In experiment using real images that such specialists use, we verify that our method is sufficiently helpful for medical specialists in efficient classification of submucosal tumors.

Acknowledgement

This study was supported by a grant from the National R&D Program for Cancer Control, Ministry for Health, Welfare and Family affairs, Republic of Korea (0920050).