

Usefulness of gastroesophageal reflux scintigraphy using the knee-chest position for the diagnosis of gastroesophageal reflux disease

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Objectives: The aim of this study is to evaluate the usefulness of gastroesophageal reflux (GER) scintigraphy using the knee-chest (KC) position for the diagnosis of gastroesophageal reflux disease (GERD). **Methods:** The study subjects were 37 patients with GERD and 8 healthy volunteers (control group). Endoscopically observed esophageal mucosal breaks were evaluated with the Los Angeles classification. For GER scintigraphy, the subjects ingested liquid yogurt labeled with ^{99m}Tc -diethylene triamine pentaacetic acid (^{99m}Tc -DTPA) and water. Imaging was performed in the supine and KC position, and GER was graded as 1–4 according to the extent of GER assessed by scintigraphy. **Results:** GER scintigraphy revealed no reflux in the control group (specificity: 100%). In the supine position, gastroesophageal reflux was observed in 49% of the patients with GERD, compared to 76% in the KC position. 21 of 23 (91%) patients with erosive esophagitis were shown to have GER with scintigraphy. GER scintigraphy revealed severe reflux (grade 3 or 4) (83%, 10/12) in the patients who had severe mucosal breaks (LA grade C or D). GER scintigraphy detected grade 1 or 2 reflux in 7 of the 14 patients who were endoscopically negative. There was a correlation between the endoscopically determined severity of mucosa and the reflux grade which was determined with GER scintigraphy. **Conclusion:** GER scintigraphy can detect gastroesophageal reflux with a high sensitivity in the KC position and might be a useful method in the screening and assessment of the severity of this disease. This method would be useful for the diagnosis of GERD in endoscopically negative patients.

Key words: gastroesophageal reflux scintigraphy, gastroesophageal reflux disease (GERD), KC position