Short Report

Non-Endoscopic Gastric Mucosal Biopsy in Dyspepsia

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Introduction

Dyspepsia is a combination of symptoms which include recurrent upper abdominal discomfort often related to food, abdominal pain, bloating, belching, crustaceans and flatulance varying from day to day over the years.[1,2] Multiple invasive and non invasive tests are available for the diagnosis of dyspepsia. Invasive are upper GI endoscopy[3] and non endoscopic gastric mucosal biopsy(NEGMB)[4-8] and noninvasive include, enzyme linked immunosorbent serological assays, radio labeled urea breath test and polymerase chain reaction for H. pylori infection.[7,8] This study reports the technique and usefulness of non endoscopic gastric mucosal biopsy in the diagnosis of dyspepsia.

Patients, Methods and Results

Sixty four patients (28 males, 36 females) over the age of 15 years including both sexes with a clinical diagnosis of dyspepsia referred to the Radiology department of Saudi Hospital for double contrast barium meal examination (DCBME), were included in this study. Informed consent was obtained prior to NEGMB. After an over night fast the patient was given one teaspoon full of ENO (Sodium bi carbonate) fruit salt to distend the stomach. Nasopharynx was anaesthetized with Xylocain jelly prior to the nasogastric (NG) tube placement. Then under fluoroscopic guidance a 120 cm resterlizable endoscopy cable biopsy forceps with a needle and non-fenestrated large cup was passed into the stomach through the NG tube. Manual compression with a leaded glove was done to direct the biopsy forcep to the right location. Biopsies taken from the antrum, greater curvature and fundus of the stomach (Figure) were sent in three different bottles containing 10% buffered formalin for histological diagnosis. All except three patients tolerated the procedure well. One patient with asthma developed dyspnoea and two cases had nasal bleeding from hypertrophied nasal turbinates.

One hundred and seventy seven biopsies were taken from three sites (Fundus 57, Greater curvature 61, Antrum 59) in 61 patients. Biopsies were normal in 13 (21%), 42 (69%) had H. pylori positive and 6 (10%) H. pylori negative gastritis.

Comments

This simple, safe and cost effective fluoroscopic technique was found useful in obtaining gastric biopsies in dyspeptic patients. When done with DCBME its sensitivity and specificity were 94% and 100% respectively when compared with endoscopy and biopsy.[6] The cost ratio of endoscopy with biopsy and NEGMB with DCBME has been reported as 2.6 to 1 by Bender et al.[4]

The speed of procedure, minimal discomfort, lack of complications and actual radiation time less than fluoroscopic time for barium meal examination[6] makes it more acceptable method for the diagnosis of dyspepsia. Non invasive tests[7,8] will only detect H. pylori but no mucosal changes. This study detected 6/61 (10%) cases of H pylori negative gastritis and Bender et al[6] 14/64 (22%) cases of H. pylori negative gastritis and 12/177 (7%) cases of intestinal metaplasia. This procedure cannot replace endoscopy where superficial and patchy mucosal lesions can be visualized and biopsied but it can be utilized as an alternative diagnostic method in institutions with adequate x-ray set up and no facilities for endoscopy.

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