



Electrogastrography variation of the interdigestive and digestive periods in healthy subjects and patients with functional dyspepsia

Ying Sun, Cheng-Ming Gu, Ge Gao, Mei-Yun Ke, Zhi-Feng Wang

Ying Sun, Cheng-Ming Gu, Ge Gao, Mei-Yun Ke, Zhi-Feng Wang, Peking Union Medical College Hospital, Chinese Academy of Medical Science, Beijing, China.

Author contributions: All authors contributed equally to the work.

Original title: *China National Journal of New Gastroenterology* (1995-1997) renamed *World Journal of Gastroenterology* (1998-).

Received: September 11, 1995
Revised: January 31, 1996
Accepted: August 1, 1996
Published online: September 15, 1996

Abstract

AIM: To investigate the gastric myoelectric activity and rhythmicity of various phase of the interdigestive and digestive states in healthy subjects (HS) and the patients with functional dyspepsia (FD).

METHODS: Ten HS (6 male, 4 female, mean age: 35.4 years) and ten patients with FD (7 male, 3 female, mean age: 40.3 years) participated in this study. Both antroduodenal manometry (ADM) and electrogastrography (EGG) (Synectics with a bipolar and WCDF-4B with 4 unipolars along with the proximal to distal stomach) were recorded simultaneously. After an overnight fast, an ADM catheter was placed under fluoroscopy. Three hours fasting of EGG and ADM recording were obtained. The following parameters were used for analysis: (1) The area under electrogastrographic wave (AUEW) during phase I, II, III of the migrating motor complex, (2) The amplitude (AP) of electrogastrographic wave, (3) The percentage of abnormal dominant frequency (AB-DF), (4) The power and (5) power increment of the proximal over the gastric fundus.

RESULTS: (1) AUEW during the phase I, II, III of migrating motor complex (MMC) were 4618 ± 1697 , 7095 ± 2831 (*vs* phase I, $P <$

0.05), 6072 ± 2674 (*vs* phase II, NS) in HS, and 3681 ± 978 , 6134 ± 1907 (*vs* phase I, $P < 0.005$), 3514 ± 1141 (*vs* phase II, $P < 0.05$) in FD. (2) Percentage of AUEW above 5000 $\mu V \cdot S/min$ during phase I, II, III was 40%, 80%, 57.1% in HS (phase II *vs* I, $P < 0.05$, III *vs* II, $P < 0.01$), and 11.1%, 77.8%, 0% in FD (phase II *vs* I, $P < 0.01$, III *vs* II, $P < 0.01$). There was significant differences of phase III between 2 groups ($P < 0.01$). (3) The highest AP and power of EGG during phase I, II, III were in the proximal antrum shown in HS but in FD. (4) The power ratio of the proximal gastric antrum over the gastric fundus was 1.54, 1.56, 1.50 in HS during phase I, II, III, and 1.41 ($P < 0.01$), 1.29 ($P < 0.01$), 1.20 ($P < 0.01$) in FD. (5) The percentage of abnormal dominant frequency (AB-DF) was 13%, 25%, 25% in phase I, II, III (*vs* II, III, $P < 0.05$) in HS, and 20%, 20%, 10% (*vs* phase I, II, $P < 0.05$) in FD. AB-DF was 4.7% and 20.5% ($P < 0.01$) between 0-30 min after the meal in HS and FD, respectively.

CONCLUSIONS: (1) Parameters of EGG in various phases of MMC were not consistent in both HS and FD. (2) Decrement of AP and power of EGG at the proximal antrum as well as increment of dysrhythmias may take part in pathogenesis in FD. Therefore, parameters obtained from multi leads may provide available data for analysis. A suitable duration of EGG recording needs to be considered.

Key words: Electrogastrography; Interdigestive motor complex; Functional dyspepsia

© The Author(s) 1996. Published by Baishideng Publishing Group Inc. All rights reserved.

Sun Y, Gu CM, Gao G, Ke MY, Wang ZF. Electrogastrography variation of the interdigestive and digestive periods in healthy subjects and patients with functional dyspepsia. *World J Gastroenterol* 1996; 2(Suppl1): 66 Available from: URL: <http://www.wjgnet.com/1007-9327/full/v2/iSuppl1/66.htm> DOI: <http://dx.doi.org/10.3748/wjg.v2.iSuppl1.66>

E- Editor: Liu WX



Published by **Baishideng Publishing Group Inc**
8226 Regency Drive, Pleasanton, CA 94588, USA
Telephone: +1-925-223-8242
Fax: +1-925-223-8243
E-mail: bpgoffice@wjgnet.com
Help Desk: <http://www.wjgnet.com/esps/helpdesk.aspx>
<http://www.wjgnet.com>

