Serologically Determined Gastric Mucosal Condition Is a Predictive Factor for Bone Deterioration in Japanese Men
Shigeto Mizuno, Daisuke Matsui, Etsuko Otaki, Nagato Kuriyama, Yoshiyuki Watanabe

Introduction: The ABC method involves assessment of gastric mucosal condition by using the combination of serum anti-Helicobacter pylori antibody (Hb-Ab) positivity and the levels of serum peptidogens (PGs), and has recently been used as screening for the group at high risk of gastric cancer in Japan. Gastric mucosal condition estimated by the ABC method may influence not only carcinogenicity of the stomach but also conditions of the whole body. In this study, we thus attempted to assess whether the result of the ABC method is available as a biomarker for bone deterioration.

Methods: We studied men in their 50s and 60s who were subjected to both the ABC method and ultrasonic bone densitometry. In the ultrasonic bone densitometry, we measured the bone density of central bone using an ultrasonic bone densitometry system which can calculate age- and BMI-adjusted odds ratios (ORs) and their 95% confidence intervals (CIs).

Results: The subjects were 230 males: 92 in their 50s and 138 in their 60s. Hb. pylori infection significantly increased the risk of low TBD (OR = 1.83, 95% CI 1.04-3.21, P = 0.03). The presence of AG significantly increased the risk of low TBD (OR = 2.23, 95% CI 1.17-4.22, P = 0.02) and low EMTs (OR = 1.86, 95% CI 1.03-3.42, P = 0.04). Compared with Group A, Group C was a significant high-risk group for low TBD (OR = 2.63, 95% CI 1.27-5.51, P = 0.03). As the ABC classification advanced from A to D, the rates of subjects having low TBD (P < 0.01) and low EMTs (P < 0.001) significantly increased in each group compared with Group C. Compared with Group A, Group C consisted of HP-Ab (+) and AG (+) subjects, Group B consists of HP-Ab (+) and AG (-) subjects, and Group D consists of HP-Ab (-) and AG (+) subjects. The characteristics of bone were measured using an ultrasonic bone densitometry system which can calculate bone such parameters as trabecular bone density (TBD), elastic modules of trabecular bone (EEMTs), and cortical thickness (CtThs). Logistic regression analysis was used to calculate age- and BMI-adjusted odds ratios (ORs) and their 95% confidence intervals (CIs).

Conclusion: The results of the ABC method showed that the subjects at high risk of gastric cancer, suggested to be useful for the risk assessment of osteoporosis.

Differential Effect of Fiber Type and Fermentability on the Intestinal Immune Response of Pigs Fed High-Fiber Diets
Milenara Saqui-Salces, Zhimin Huang, Pedro E. Urriola, Gerald C. Shurson

High-fiber diets are prescribed as therapies for patients because they reduce the incidence or severity of GI inflammatory diseases. Similarly, inclusion of corn dried distiller's grains with solubles (DDGS) in a commercial diet reduced ileitis in pigs. Diet rich in fiber and low in fermentable oligo-, di-, mono-saccharides and polyols (FODMAP) alter the gut microbiota, local immune response, and intestinal endocrine function. Most studies on the effect of fiber on intestinal immune response have used purified fiber sources that may not model the effect of complex diets. Therefore, the influence of corn and soybean meal on 16.7 ± 0.1% protein diet was examined for the intestinal immune response induced by complex fiber sources with different fermentability. Experimental procedures were approved by the University of Minnesota Institutional Animal Care and Use Committee.

Results: Pigs were fed the S-530 diet (83.4 ± 6.7 kg, n = 12 per dietary treatment) were fed an amount equivalent to 2.5% their body weight, and pigs on the DDGS diet were fed an amount equivalent to 1.5% their body weight. The pigs were housed in individual pens, and the diet was the only source of nutrition. All questionnaires were completed before and after the study, and the results were analyzed using statistical methods. The pro-inflammatory cytokines and receptors were those that were measured at the end of the study. The changes in the levels of cytokines and receptors were analyzed using statistical methods. The results showed that the level of cytokines and receptors decreased after feeding the DDGS diet compared to the S-530 diet. The results also showed that the level of cytokines and receptors decreased after feeding the DDGS diet compared to the S-530 diet.

Probiotic Administration Among Free-Living Older Adults: A Randomized Controlled Trial
Lina Östlund-Lagerström, Annica Kihlgren, Dirk Repsilber, Bengt Björksten, Robert J. Brummer, Ida Schonhut

Background: Gastrointestinal problems are debilitating conditions, commonly affecting older adults. Despite this fact the distribution of gut problems among free-living older adults has not been investigated. Furthermore, therapeutic strategies directed towards age-associated gut problems do not yet exist. Here, we aim to elucidate the distribution of gastrointestinal problems among a Swedish probiotic-supplemented and 2 placebo-supplemented groups.

Methods: A total of 247 older adults (26 65 years, mean age 72.5 ± 7.3 years, IQR 68-78) representing the general Swedish population were recruited through advertisements in the local newspaper. The exclusion criteria were set to any known gastrointestinal disease and inclusion criteria to 65 years or older. The questionnaire Gastrointestinal Symptoms Rating Scale (GSRS) was used to assess the distribution of gut problems. All subjects were enrolled in the phase III RCT. The groups were randomized to 2 treatment arms: daily supplementation of Lactobacillus (L) reuteri and placebo. The primary outcome measure was set to changes of symptoms as judged by GSRS. Secondary outcome measures were set to any changes reported on the questionnaires Hospital Anxiety and Depression Scale, Perceived Stress Scale (PSS) and EQ-5D-5L. All questionnaires were completed before start and at week 8 and 12. The study was performed in accordance with the Declaration of Helsinki. Written informed consent was obtained from all participants, ethical approval dnr 2012/509. Results: In total 74% of the subjects were found to suffer from gastrointestinal problems as judged by a score ≥ 2 on any of the domains measured by GSRS. Inclusion, constipation and diarrhea were found to be the most common gut problems affecting older adults. No differences in mean values between the probiotic and placebo supplemented group was found. However, in a subpopulation of subjects (n=53) experiencing high stress levels at baseline (PSS score ≥15) a trend of decreased perceived stress level in the probiotic-supplemented subjects was revealed compared to the placebo group (p = 0.095). Conclusion: Gastrointestinal discomfort is a substantial problem among older adults and should thus not be neglected. The probiotic compound investigated here...