Sleep Position and Gastroesophageal Reflux

The purpose of this study was to investigate the effect of spontaneous sleep positions on the occurrence of nocturnal gastroesophageal reflux in patients referred for ambulatory pH impedance reflux monitoring, including the concurrent sleep position measured using a sleep position measurement device that measured left, right, supine, and prone positions.

A total of 57 patients were evaluated, observing a significantly shorter acid exposure time in the left (median 0.0%, P25-P75, 0.0%-3.0%), compared with the right lateral position (median 1.2%, 0.0%-7.5%), and the supine position (median 0.6%, 0.0%-8.3%). The esophageal acid clearance time was significantly shorter in the left lateral decubitus position (median 35 seconds, 16-115 seconds), compared with the supine (median 76 seconds, 22-257 seconds), and the right lateral positions (median 90 seconds, 26-250 seconds).

It was concluded that the left lateral decubitus position was associated with shorter nocturnal esophageal acid exposure time and faster esophageal acid clearance, compared with the supine and right lateral decubitus positions, as clinically suspected.

Schuitenmaker, J., van Dijk, M., Renske, N., et al. "Association Between Sleep Position and Nocturnal Gastroesophageal Reflux: A Study Using Concurrent Monitoring of Sleep Position and Esophageal pH and Impedance." American Journal of Gastroenterology, Vol. 112, February 2020, pp. 348-351.

IBD Treated Patients with Anti-TNFa Response to Vaccination for COVID-19

Patients with IBD treated with anti-tumor necrosis factor (TNFa biologics), are at high risk for vaccine-preventable infections. To study and assess the serologic responses to messenger RNA-Coronavirus Disease 2019 vaccine and its safety profile in patients with IBD stratified according to therapy, and compared with healthy controls (HCs), a prospective, controlled multicenter Israeli study was carried out. Those enrolled received 2 BNT162b2 (Pfizer/BioNTech) doses. Anti-spike antibody levels and functional activity, anti-TNFa levels and adverse events (AEs) were detected longitudinally.

Overall, 258 subjects: 185 IBD (67 with anti-TNFa, 118 non-anti-TNFa, and 73 HCs) were studied. After the first vaccine dose, all HCs were seropositive. Approximately 7% of patients with IBD, regardless of treatment, remained seronegative. After the second dose, all subjects were seropositive. However, anti-spike levels were significantly lower than anti-TNFa treated, compared with non-anti-TNFa treated patients and HCs.

Neutralizing and inhibitory functions were both lower in anti-TNFa treated, compared with non-anti-TNFa treated patients and HCs. Anti-TNFa drug levels and vaccine responses did not affect anti-spike levels. Infection rate and AEs were comparable in all groups. IBD activity was unaffected by BNT162b2.

It was concluded that in this prospective study in patients with IBD stratified according to treatment, all patients mounted serologic response to 2 doses of vaccine; however, its magnitude was significantly lower in patients treated with anti-TNFa, regardless of administration timing and drug levels. The vaccine was safe. As vaccine serologic response longevity in this group may be limited, vaccine booster dose should be considered.

Edelman-Klapper, H., Zittan, E., Shitrit, A., et al. on behalf of the "Responses to Covid-19 vaccine Israeli IBD Group (RECOVER)." Gastroenterology 2022; Vol. 152, pp. 454-467.

Viremia in Chronic HBV with DNA Less than 2000 IU/mL

From 3 tertiary hospitals, untreated patients were enrolled with compensated cirrhosis with persistent serum HBV DNA levels less than 2000 IU/mL; LLV was defined as having at least 1 detectable serum HBV DNA (20-2000 IU/mL) episode, whereas maintained virologic response (MVR) was defined as having persistently undetectable serum HBV-DNA (<20 IU/mL). When serum HBV-DNA was >2000 IU/mL during follow-up, AVT was administered according to guidelines. Study end points were development of cirrhotic complication event (CCE), or hepatocellular carcinoma (HCC).

Among 567 patients analyzed, cumulative HCC risk at 3, 5, and 7 years and was comparable between LLV (n = 391) vs MVR (n = 176) groups (5.7%, 10.7% and 17.3% vs 7.2%, 15.5%, and 19.4%), respectively. CCE risk was also comparable between 2 groups (7.5%, 12.8% and 13.7% vs 7.8%, 12.3% and 14.6%), respectively. By multivariate analysis, LLV (vs MVR), was not associated with HCC or CCE risks, with adjusted HR of 1.422 and 1.816, respectively.

Inverse probability of treatment weighting analysis yielded comparative outcomes between the 2 groups, regarding HCC and CCE risks, with HR ratios of 0.903 at 1.192, respectively.

It was interpreted that episodic LLV among untreated patients with compensated cirrhosis does not increase the risk of disease progression compared with MVR status. Need for AVT for episodic LLV should be reevaluated.

Lee, H., Park, S., Lee, Y., et al. "Episodic Detectable Viremia Does Not Affect Prognosis in Untreated Compensated Cirrhosis with Serum Hepatitis B Virus DNA <2000 IU/mL. American Journal of Gastroenterology 2022; Vol. 117, pp. 288-294.

BMI Association with Early-Onset Colorectal Cancer

There is an established association of body mass index (BMI) with colorectal cancer (CRC), and with the increasing obesity prevalence among younger generations. An attempt to evaluate the association of BMI at different ages during early adulthood with early onset CRC was carried out among 6602 patients with CRC and 7950 matched controls who were recruited in 2003 to 2020 in a population-based, case-controlled study from Germany, with 747 patients and 621 controls younger than 55 years and included in the analysis.

Self-reported height and weight at ages 20 years and 30 years and at approximately 10 years before diagnosis were recorded in personal interviews. Associations of BMI with early-onset CRC were estimated using multiple logistic regression.

Compared with participants with BMI less than 25, those with BMI greater than 30 (obesity) at ages 20 years and 30 years and approximately 10 years before diagnosis were interviewed at 2.56, 2.06, and 1.88-fold risk of early onset CRC. The association of BMI with early-onset CRC risk was particularly pronounced among and essentially restricted to the majority of participants with no previous colonoscopy.

It was concluded that obesity at early adulthood is strongly associated with increased risk of early-onset CRC.

Hengjing, L., Boakye, D., Chen, X., et al. "Associations of Body Mass Index at Different Ages with Early-Onset Colorectal Cancer." Gastroenterology, 2022; Vol. 162, pp. 1088-1097.

Symptoms after Acute Gluten Exposure in Celiac Disease and NCGS

Treated patients with celiac disease (CeD) and nonceliac gluten sensitivity (NCGS), report acute, transient, incompletely understood symptoms after suspected gluten exposure. To determine whether (i) blinded gluten exposure induces symptoms, (ii) subjects accurately identify gluten exposure, and (iii) serum interleukin-2 (IL-2) levels distinguish CeD from NCGS subjects after gluten exposure.

A total of 60 subjects (n = 20 treated, healed CeD; n = 20 treated NCGS; n = 20 controls) were block randomized to a single, double-blind sham (rice flour), or 3-g gluten challenge with

72-hours followup. Twelve serial questionnaires (pain, bloating, nausea, and fatigue), and 10 serial plasma samples were collected. Mucosal permeability was assessed using both urinary lactose-13C mannitol ratios and endoscopic mucosal impedance.

A total of 35 of 40 (83%) subjects with CeD and NCGS reported symptoms with gluten (8 CeD, 9 NCGS), and sham (9 CeD and 9 NCGS), compared with 9 of 20 (45%) controls after gluten (n = 6) and sham (n = 3). There was no significant difference in symptoms among groups. Only 2 of 10 subjects with CeD and 4 of 10 NCGS identified gluten, whereas 8 of 10 subjects with CeD and 5 of 10 NCGS identified sham. A significant plasma IL-2 increase occurred only in subjects with CeD after gluten, peaking at 3 hours and normalizing within 24 hours postchallenge, despite no significant intestinal permeability change from baseline.

It was concluded that symptoms did not reliably indicate gluten exposure in either subjects with CeD or NCGS. IL-2 production indicates rapid onset, gluten-induced T-cell activation in CeD, despite longstanding treatment. The effector site is unknown, given no increased intestinal permeability after gluten.

Cartee, A., Choung, R., King, K., et al. "Plasma IL-2 and Symptoms Response After Acute Gluten Exposure in Subjects with Celiac Disease or Non-celiac Gluten Sensitivity." American Journal of Gastroenterology 2022; Vol. 117, pp. 319-326.

Early Onset Colorectal Neoplasia

To determine the prevalence of colorectal neoplasia in individuals between 45 and 49 years old or even younger in the United States, an analysis was carried out using a large, nationally represented data set of almost 3,000,000 outpatient colonoscopies to determine the prevalence of, and risk factors for colorectal neoplasia among patients aged 18 to 54.

High quality colonoscopies were analyzed from AMSURG ambulatory endoscopic centers (ASCs) that report the results from the GI Quality Improvement Consortium (GIQuIC). Logistic regression was used to identify risk factors for EOCRC (early onset colorectal cancer).

Increasing age, male sex, white race, family history of CRC, and examinations for bleeding or screening were all associated with higher odds of APLs (advanced premalignant lesions) and CRC (colorectal cancer). Among patients aged 45-49, 32% had any neoplasm, 7.5% had APLs and 0.5% had CRC. Rates were almost as high in those aged 40-44. Family history of CRC portended neoplasia rates 5 years earlier. Race of APLs were higher in American Indian/Alaskan Natives, but lower among Blacks, Asians and Hispanics, compared with White counterparts. Prevalence of any neoplasia and APL gradually increased between 2014 and 2019 in all age groups.

It was concluded that these data provide support for lowering the screening age from 45 for all average-risk individuals.

Trivedi, P., Mohapatra, A., Morris, M., et al. "Prevalence and Predictors of Young-Onset Colorectal Neoplasia: Insights from a Nationally Representative Colonoscopy Registry." Gastroenterology 2022; Vol. 162, pp. 1136-1146.

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Answers to this month's crossword puzzle: