Clinical Digest

Weight Management

Weight May Affect Risk of Liver Cirrhosis

Excess weight can increase the risk of developing cirrhosis of the liver, say researchers from the University of Oxford, United Kingdom. In their prospective study, the researchers studied 1,230,662 women (with a mean age of 56 years at time of recruitment) for an average of 6 years to determine the relationship between body mass index (BMI) and incidence of cirrhosis.

Study participants were recruited through National Health Service (NHS) breast screening centers in England and Scotland during the years 1996 to 2001. At recruitment, the participants completed questionnaires about their height, weight, alcohol consumption, and smoking habits. Additional questions addressed sociodemographic details as well as reproductive and medical histories.

The NHS central registry holds all electronic health records. As such, all records of hospital admissions and deaths of study participants during the 6 years after recruitment were accessible in the NHS database. Researchers identified participants based on their unique NHS number and other identifiers, including birth date and sex.

During the follow-up period, 1,811 participants had a first hospital admission for or died from cirrhosis. Among the women who had a BMI of 22.5 or higher, increased BMI was associated with an increased incidence of cirrhosis: For each 5-unit increase in BMI, the risk of cirrhosis increased by approximately 28%. Although the relative increase was not altered significantly by alcohol consumption (in this study, the women consumed only low to moderate amounts of alcohol), the absolute increase in the risk of cirrhosis with increasing BMI was significantly greater in women who drank at least 150 g of alcohol per week (an average of 2.5 drinks per day). The researchers note that among women who consume low to moderate amounts of alcohol, the absolute risk of cirrhosis in women who are at a healthy weight (BMI of 22.5 to 25) is 0.8 in 1,000, compared with 1 in 1,000 in women who are obese (BMI of 30 or higher). Among women who drink 150 g or more of alcohol per week, the absolute risk of cirrhosis in obese women is significantly higher than in women who are at a healthy weight (5 in 1,000 vs 2.7 in 1,000, respectively).

The researchers estimate that excess body weight contributes to about 17% of the cirrhosis-related hospital admissions and deaths for middle-aged women in the United Kingdom. By comparison, alcohol consumption contributes to about 42%.

Source: *BMJ.* 2010;340:c912. doi:10.1136/bmj/c912.

Pain Management

Does Cognitive Status Affect Pain Reporting?

Research, guidelines, and experts in the pain management field suggest that patients with cognitive impairment report pain less often and at a lower intensity than patients without cognitive impairment. However, researchers now are saying that this presupposition may be inaccurate, because it is derived from research with important limitations (such as inadequate power and lack of multivariate adjustment). Rather, they suggest that pain reports of patients with mild-to-moderate impairment can be reliable if the appropriate scales are used.

In their cross-sectional analysis, researchers from University of Chicago and Northwestern University, both in Chicago, Illinois, and Dalhousie University, Halifax, Nova Scotia, Canada, evaluated the relationship between cognitive status and pain self-report. They used data from the Canadian Study of Health and Aging—a national longitudinal study designed to provide information about the epidemiology of dementia and its impact on caregivers.

All of the participants completed a screening questionnaire that incorporated a measure of self-reported pain. The cognitive status of each participant was assessed using the Modified Mini-Mental State Examination. (Cognitively intact participants scored higher than 77 whereas cognitively impaired participants scored between 50 and 77.) Of the 5,397 eligible participants, 876 were considered cognitively impaired. Each participant's pain was assessed using a 5-point verbal descriptor scale (VDS). Participants were asked questions such as, "How much bodily pain have you had during the past 4 weeks?" Possible responses ranged from 1 to 5 (with 1 being "none" and 5 being "very severe"). For the study, the participants' responses were dichotomized into "no pain" vs "any pain" and "pain at a moderate or higher intensity" vs "pain not at a moderate or higher intensity."

Cognitively intact participants were significantly more likely to report noncancer pain than cognitively impaired participants (56% vs 52%, respectively), though the difference

was no longer significant after multivariate adjustment. Conversely, there was no association between a participant's cognitive status and self-report of noncancer pain at a moderate or higher intensity: Of the cognitively intact participants, 1,623 (35.9%) reported moderate or higher intensity pain, whereas 329 (37.6%) cognitively impaired participants reported such a level of pain. In multivariate analyses, the researchers found that participants who were cognitively impaired did not have lower odds of reporting any noncancer pain or pain at a moderate or higher intensity (odds ratio = 0.83, 0.95, respectively).

The researchers say that although previous studies have suggested that cognitively impaired patients report pain less often and at a lower intensity than cognitively intact patients—due to declines in memory, language, and executive function—their study supports the hypothesis that cognitively impaired patients can reliably report pain. They also note that findings of the current study corroborate laboratory and imaging evaluations of pain response, since patients with cognitive impairment report similar pain thresholds in the laboratory as those who are cognitively intact.

Current guidelines—which suggest cognitively impaired adults report pain less often—may be misleading, the researchers say. Past studies have been limited by factors (such as small sample sizes), and many lacked adjustment for variables known to be associated with pain self-report (such as comorbidities and depression). Self-report, which is considered the best source for pain assessment in cognitively intact adult patients, may be distrusted when the patient has cognitive problems—due to these possibly misleading guidelines. As such, patients with cognitive impairment are at risk of having their pain undertreated, which can be linked to higher rates of delirium, depression, and functional impairment.

Although the data were collected in 1996, the researchers believe the findings of their analysis "remain current and relevant, as neither the assessment nor treatment of noncancer pain or cognitive impairment [have] significantly changed since the data were collected."

Source: *J Pain Symptom Manage.* 2010;39(4):734–742. doi:10.1016/j.jpainsymman.2009.09.016.

PULMONARY MEDICINE

Lung Function in Young Adults Is Useful Predictor

The best time to diagnose low lung function and airflow obstruction may be 20 years before they occur. In a recent study, researchers from Northwestern University, Chicago, Illinois; University of Alabama, Birmingham; and University of Arizona, Tucson, say that low lung function in otherwise healthy young adults—which is often unrecognized by physicians and other health care providers—can help predict the presence of low lung function and airflow obstruction in middle age.

The researchers sought to determine this predictive relationship by conducting a longitudinal study of 2,496 generally healthy young adults. All of the participants were aged 18 to 30 years at entry, did not report having asthma, and consented to return for a follow-up examination 20 years later. Participants completed questionnaires at baseline regarding their demographic characteristics, lifestyle habits (such as smoking history), secondhand smoke exposure, and medical history.

Airflow obstruction—which the researchers defined as forced expiratory volume in 1 second (FEV_1)/forced vital capacity (FVC) ratio less than the lower limit of normal—was present in 6.9% of participants at baseline and in 7.8% of participants at year 20. Of those who had airflow obstruction at year 0, 52% also had airflow obstruction 20 years later.

In order to determine how well year 0 lung function predicted airflow obstruction at year 20, the c-statistic was calculated. The c-statistics (95% confidence interval) for FEV_1, FVC, and FEV_1/FVC were 0.70 (0.66 to 0.74), 0.57 (0.52 to 0.61), and 0.87 (0.84 to 0.90), respectively. All were significant, with FEV_1/FVC at year 0 being highly predictive of airflow obstruction 20 years later.

The adverse effect of cigarette smoking on age-related lung function decline appeared to be greatest in participants who had airflow obstruction as young adults. As such, the researchers say that low lung function and airflow obstruction in young adults, in addition to smoking, can predict these conditions 2 decades later. An early, accurate diagnosis of airflow obstruction enables implementation of new smoking-cessation strategies and other treatment modalities sooner, which may slow disease development and progression, the researchers say.

Source: *Am J Med.* 2010;123(5):468.e1–468.e7. doi:10.1016/j.amjmed.2009.07.037

CARDIOVASCULAR HEALTH

Anxiety Disorders Increase Risk of Myocardial Infarction

Although several epidemiologic studies have established depression as a well known risk factor for myocardial infarction (MI), little is known about the independent or additive risk of MI that stems from anxiety disorders. Depression commonly co-occurs with anxiety disorders, such as posttraumatic stress disorder (PTSD), specific

phobia, generalized anxiety disorder (GAD), social phobia, and obsessive-compulsive disorder (OCD). In a recent study, researchers from the St. Louis VA Medical Center, Saint Louis University, and Washington University, all in St. Louis, Missouri; the Central Arkansas Veterans Healthcare System and University of Arkansas, both in Little Rock, sought to determine if these major anxiety disorders contribute to incident MI and whether this risk is increased in the presence of depression.

The researchers used a 7-year retrospective cohort design and studied data on 96,612 VA patients, all of whom were between the ages of 25 and 80 years and had a diagnosis of depression at baseline. Patients included in the depressed group had either 1 inpatient code for depression (as determined by the *International Classification of Diseases, Ninth Revision, Clinical Modification* [*ICD-9-CM*]) in fiscal year (FY) 2000, or at least 2 outpatient *ICD-9* codes for depression in a 12-month span, with at least 1 of these *ICD-9* codes occurring in FY 2000. The patients in the depressed group were compared with 259,387 patients without depression. Cox proportional hazards models (adjusted for multiple MI risk factors and sociodemographics) stratified by depression were computed to test for a main effect of unspecified anxiety disorder, GAD, panic disorder, social phobia, OCD, and PTSD on risk of incident MI.

Researchers found that depressed patients were more likely to have unspecified anxiety disorder, GAD, panic disorder, social phobia, OCD, and PTSD, and also were significantly more likely to have more than 1 anxiety disorder. In addition, when compared with patients without depression, a higher proportion of patients with depression had hypertension. Cardiovascular risk factors including hyperlipidemia, obesity, alcohol abuse or dependence, and nicotine dependence were more prevalent in the depressed cohort.

When compared with nondepressed patients, patients with depression were at increased risk for incident MI (hazard ratio 1.39; 95% confidence interval 1.34–1.45). Among the nondepressed patients, those with unspecified anxiety disorder, panic disorder, and PTSD had a higher risk of incident MI. Among depressed patients, the magnitude of risk for MI was lower for each anxiety disorder, although unspecified anxiety disorder and panic disorder remained significant predictors of incident MI. In depressed patients, the effect of PTSD was not significant, while GAD, social phobia, and OCD were not associated with MI.

Although the effect of anxiety disorders attenuated the risk of MI in depressed patients, the risk remained significant even after adjusting for numerous cardiovascular and sociodemographic factors (including age, race, gender, diabetes, marital status, insurance, obesity, hypertension, hyperlipidemia, nicotine dependence, and alcohol abuse or dependence).

The patients in the study did not have diagnostic evidence of cardiovascular disease at baseline, the researchers say, therefore, depression and anxiety contributed to new-onset MI. However, the researchers do not exclude the possibility that other cardiovascular disease at baseline may be "in the pathway from affective disorders to MI." They note that the American Heart Association does not include anxiety and depression in its list of established risk factors for coronary heart disease "despite the fact that the risk attributable to these disorders is similar in magnitude to other major established risk factors such as diabetes and smoking." They add that, in general, cardiologists "are not trained to screen patients for psychiatric conditions" and that the cardiovascular consequences of anxiety and depression are not routinely discussed during many physician-patient encounters.

The researchers say that the data raise the question of whether psychiatrists, psychologists, and other mental health care providers should have a larger role in monitoring the cardiovascular health of patients with anxiety and depression. They believe further research is needed to determine whether treating depression and anxiety could reduce the risk for cardiovascular events and suggest, moreover, that greater integration of primary and specialty care could reduce the burden on mental health and cardiovascular disease.

Source: *Am Heart J.* 2010;159(5):772–779.
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