Clinical Briefs in Primary Care

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Evidence-based updates in primary care medicine

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Misadministration of Insulin: How Much of a Problem?

SOURCE: Trief PM, et al. Incorrect insulin administration: A problem that warrants attention. *Clin Diabetes* 2016;34:25-33.

According to data reported by the CDC in 2015, insulin is a component of the glycemic control regimen of approximately one-third of all diabetics. Because hypoglycemia is responsible for a significant number of emergency care visits, misadministration of insulin (e.g., incorrect dosing, missing meals, inappropriate dose escalation, inappropriate injection administration, or rotation) is often a cause.

To clarify the role of insulin misadministration among experienced users, Trief et al contacted 60 adults who had self-administered insulin for at least 2 years (mean = 15 years). The authors asked these individuals to demonstrate their insulin injection technique. More than 90% of participants reported they were moderately-very confident in their ability to properly inject insulin.

Investigators found that syringe users made fewer errors in preparation and drawing insulin than insulin pen users. About 20% of the time, users drew an incorrect dose. Over 25% of subjects did not consistently rotate injection sites. More than 10% of participants acknowledged using expired insulin.

These experienced insulin users were highly confident in the correctness of their insulin administration. The authors suggested that the insights provided by this study should prompt providers to ask for a demonstration of insulin administration technique, even in highly experienced users. ■

Comparing Smoking Cessation Pharmacotherapies

SOURCE: Baker TB, et al. Effects of nicotine patch vs varenicline vs combination nicotine replacement therapy on smoking cessation at 26 weeks: A randomized clinical trial. *JAMA* 2016;315:371-379.

Pharmacotherapy for smoking cessation is only modestly effective. Clinicians often want to intensify smoking cessation pharmacotherapy in an effort to enhance cessation rates. Does it make a difference?

Baker et al randomized adult smokers (n = 1086) to one of three regimens: varenicline alone (VAR), nicotine replacement therapy patch (NRT-P) alone, or NRT-P plus nicotine replacement therapy lozenge (NRT-L) combined (NRT-P + NRT-L). Subjects were treated for 12 weeks.

Outcomes were measured at 26 weeks and again at 52 weeks. At both endpoint measurement times, there was no significant difference among the three treatment arms: Abstinence rates hovered closely around the 20% mark for each of the interventions at both points in time.

Since the two monotherapy arms were as effective as intensified nicotine treatment (NRT-P + NRT-L), the additional expense and complexity of the latter treatment does not appear to be justified. ■

Ambulatory BP Monitoring to Diagnose Hypertension

SOURCE: Bloch MJ, Basile JN. Ambulatory blood pressure monitoring to diagnose hypertension — an idea whose time has come. *J Am Soc Hypertens* 2016;10:89-91.

The United Kingdom Guidelines on Hypertension issued by the National Institute for Clinical Excellence and Health recommended use of ambulatory blood pressure monitoring (ABPM) as early as 2011. By their calculations, requiring the country's general practitioners to routinely confirm blood pressure (BP) elevations through ABPM would lead to significant annual financial savings. Why? Because as many as one-third of patients originally diagnosed as hypertensive based on office BP measurement turn out to have white-coat hypertension and do not require treatment at all; hence, inexpensive ABPM makes sense.

Even the United States Preventive Services Task Force in its 2015 recommendations designated a level "A" recommendation to out-of-office BP monitoring to establish the diagnosis of hypertension, preferably ABPM, but home BP monitoring if ABPM is not available.

ABPM is an inexpensive (generally in the range of $125-$150) noninvasive tool that helps reduce patients with office BP elevations, which do not merit treatment. In addition to this benefit, it has been recognized for more than a decade that BP elevation as defined by ABPM is a much stronger predictor of cardiovascular outcomes than office BP measurement. We should follow the lead of our

U.K. colleagues and perform ABPM (or at least home BPM) on a much more routine basis. ■

The Associations of Vitiligo

SOURCE: Gill L, et al. Comorbid autoimmune diseases in patients with vitiligo: A cross-sectional study. *J Am Acad Dermatol* 2016;74:295-302.

The cause of vitiligo (VTL) remains obscure, but it is generally recognized to be an autoimmune disorder, with components of genetic predisposition, environmental stressors, and oxidative stress that ultimately influence its presentation. The most common disorder with which clinicians may associate VTL is hypothyroidism, which is also usually autoimmune (Hashimoto's disease).

Gill et al reviewed autoimmune comorbidities associated with VTL in a large population (n = 1873) of VTL patients observed at the Henry Ford Health System in Detroit between 2002-2012. A number of comorbid autoimmune disorders were significantly more frequently identified in the VTL population than in the comparator general U.S. population. Included among these were hypothyroidism, alopecia areata, inflammatory bowel disease, pernicious anemia, lupus, myasthenia gravis, and Sjogren's syndrome. Overall, approximately 20% of VTL patients had one or more comorbid autoimmune disorders. The authors suggested vigilance and appropriate screening for comorbid autoimmune disorders when patients present with VTL. ■

A Toast to Not So Fast

SOURCE: Goulden R. Moderate alcohol consumption is not associated with reduced all-cause mortality. *Am J Med* 2016;129:180-186.

Conventional and clinical wisdom says alcohol in moderation benefits one's health. Plenty of observational data show those who are non-drinkers and those who drink excessively have higher mortality than those who drink in moderation. But observational studies can only generate hypotheses because such studies cannot prove causation. Have we jumped the gun on causation?

Goulden reported on 206,966 person-years of follow-up from the Health and Retirement Study, a cohort study composed of a nationally representative sample of adults > 50 years of age (n = 24,029). When adjusted for sociodemographic variables, health status, and functional status, there was no difference in all-cause mortality associated with moderate alcohol intake compared to other groups.

The relationship between moderate alcohol use and health benefits may have nothing to do with alcohol. Might those who drink in moderation also practice moderation in other aspects of their lives, such as smoking, exercise, diet, and relationships, which could lead to better outcomes regardless of alcohol intake? As usual, there are no simple answers. ■

What Should Americans Eat?

SOURCE: DeSalvo K, et al. Dietary guidelines for Americans. *JAMA* 2016;316:457-458.

Since the National Nutrition Monitoring and Related Research Act of 1990, governmental agencies have provided the Dietary Guidelines, now called Dietary Guidelines for Americans (available at: http://www.health.gov/dietaryguidelines). The most recent edition, intended to inform diet for the 2015-2020 interval, contains several pertinent recommendations: 1) Limit added sugars to < 10% of calories/day (currently at 13%); 2) Limit saturated fats to < 10% of calories/day; 3) Limit sodium to < 2300 mg/day (currently at 3440 mg/day).

The 2010 Dietary Guidelines suggested limiting dietary cholesterol to 300 mg/day. Because the guidelines advisory committee felt there was insufficient evidence to provide specific dietary cholesterol targets, comment on cholesterol was omitted from this document. However, the healthy diet patterns suggested in the guidelines would inherently provide a dietary cholesterol of 100-300 mg/day. The guidelines' overarching message is consistent with much of current popular diet philosophy: A healthy eating pattern limits saturated fats, trans fats, added sugars, and sodium. ■

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