Apnea and Sildenafil

A single 50-mg dose of the erectile dysfunction drug sildenafil at bedtime can worsen obstructive sleep apnea, report researchers from Brazil and the United States (Roizenblatt S. et al. Arch Intern Med. 2006;166:1763-1767).

Because sildenafil could potentially impair respiratory function by promoting upper airway congestion, relaxation of the pharyngeal muscles, and pulmonary vasodilation, the researchers hypothesized that the drug could exacerbate obstructive sleep apnea, a common condition among men with erectile dysfunction. To test this, the researchers randomly assigned 14 men with severe obstructive sleep apnea to receive sildenafil or placebo and monitored them with all-night polysomnography. On the following night, the groups were switched (men who received the drug were given placebo and vice versa).

Measures of sleep apnea were significantly worsened with sildenafil compared with placebo, including an increase in the number of episodes of reduced oxygen per hour and a decrease in mean arterial oxygen saturation. Although the authors noted that the results of this small study should not be extrapolated to all patients with obstructive sleep apnea, they said “sildenafil should be used with caution for treating erectile dysfunction in individuals with a sleep-related breathing disorder.”

Mitochondria Defect

Research on mice with mutated mitochondria may help explain some cases of infertility among human males (Nakada K et al. Proc Natl Acad Sci U S A. 2006;103:15148-15153).

In the study, the researchers created male “mito-mice” with different levels (from less than 10% to more than 80%) of mutant mitochondrial DNA. Mice with more than 70% mutant mitochondria had difficulty undergoing meiosis, the process through which sperm are produced. In addition, the sperm that the animals did produce had increased morphological abnormalities and decreased swimming ability.

DHEA nor testosterone replacement had “physiologically relevant” beneficial effects on measures of body composition, physical performance, insulin sensitivity, or quality of life, the researchers found. Similar results were found in elderly women given DHEA or placebo.

The findings “argue strongly against the use of these agents” to counter the effects of aging, the researchers noted.

Extensive Exercise and Fertility

Scientists from Spain have found that men who engage in exhaustive endurance exercise experience temporary changes in hormone levels and sperm counts that might affect their fertility (Vaamonde D et al. Int J Sports Med. 2006;27:680-689).

To study how intense physical activity might affect male reproductive factors, the researchers randomly assigned 16 healthy young men to short-term exhaustive endurance exercise (pedaling an exercise bicycle to the point of exhaustion 4 times per week for 2 weeks) or avoidance of vigorous activity. The men who vigorously exercised experienced a decrease in sperm concentration and volume of ejaculate and showed changes in sperm motility and the percentage of normal sperm, relative to their pretreatment values. Levels of follicle stimulating hormone and luteinizing hormone were decreased (but remained within normal range) among the exercisers and testosterone levels increased.

Although hormone levels and sperm-related factors had almost returned to pretreatment levels within 2 to 3 days after the men ended their intense exercise regimens, the researchers suggest that exhaustive exercise might cause men who already have a sperm count and reproductive hormones that are in the low end of the normal range to “develop pathological changes” in their reproductive profile.—Joan Stephenson, PhD

©2006 American Medical Association. All rights reserved.

(Reprinted) JAMA, November 15, 2006—Vol 296, No. 19 2307