

Low Testosterone Predicts Frailty in Older Men

BY DOUG BRUNK

FROM THE ANNUAL MEETING OF THE ENDOCRINE SOCIETY

SAN DIEGO — Low levels of free testosterone are an independent predictor of frailty in older men, results from a large Australian study showed.

“We know that lower testosterone levels in older men predict a variety of poorer health outcomes, including reduced bone mineral density, fracture risk, cardiovascular risk, and mortality. The question that intrigued was whether low free testosterone would predispose to frailty in aging men,” Dr. Bu Beng Yeap said at the meeting.

To find out, Dr. Yeap, head of the department of endocrinology at Fremantle (Western Australia) Hospital and his associates conducted a prospective cohort study of 3,616 men aged 70-88 years who were enrolled in HIMS (Health in Men Study), a longitudinal study of community-dwelling older men. They excluded men with prostate cancer, as well as those who were taking androgens or hormone therapy.

During 2001-2004, the researchers used the FRAIL scale to assess the men for frailty. This scale comprises five domains, including fatigue, difficulty climb-

ing a single flight of stairs, difficulty walking more than 100 meters, presence of more than five illnesses, or weight loss of more than 5% (J. Nutr. Health Aging 2008;12:29-37). Testosterone, sex hormone-binding globulin, and luteinizing hormone were assayed in early morning sera collected at baseline. Free testosterone was calculated based on mass action equations.

ment for covariates, only lower free testosterone at baseline predicted frailty at follow-up (OR, 1.22). “We need randomized, controlled clinical trials to explore whether testosterone therapy can prevent the development of frailty in aging men,” concluded Dr. Yeap, also of the University of Western Australia, Crawley.

Dr. Yeap said he had no conflicts of interest to disclose. ■

VITALS

Major Finding: In longitudinal analysis, after adjustment for covariates, only low free-testosterone levels at baseline predicted frailty at follow-up (OR, 1.22).

Data Source: A prospective cohort study of 3,616 men aged 70-88 years in Perth, Australia, who were enrolled in a longitudinal study of community-dwelling older men.

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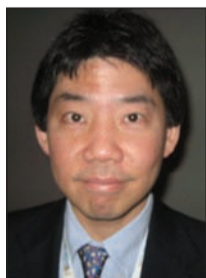
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References: 1. Data on file. Novo Nordisk Inc, Princeton, NJ. 2. IMS Health Inc. IMS MIDAS (12 months ending September 2009).



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DR. YEAP

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During 2008-2009, the researchers reassessed frailty in 1,586 of the men who were then aged 76-93 years, and compared their results from baseline.

Dr. Yeap reported that at baseline, 15.2% (548) of the men were frail, which increased to 23% (364) at follow-up. At baseline, after adjustment for age, body mass index, smoking, diabetes, social support, and impairments in vision and hearing, each decrease of one standard deviation in the level of total testosterone was associated with significantly increased odds of frailty (odds ratio, 1.23), as was each decrease of one standard deviation in the level of free testosterone (OR, 1.29).

At the same time, lower luteinizing hormone was associated with reduced odds of frailty (OR, 0.88). Sex hormone-binding globulin was not associated with frailty.

In longitudinal analysis, after adjust-



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