

Free testosterone and risk of Alzheimer disease

Moffat et al. examined the association between Alzheimer disease (AD) risk and endogenous total and free testosterone before diagnosis in 574 men from the Baltimore Longitudinal Study of Aging. Increased free testosterone index (FTI) but not total testosterone was associated with decreased risk of AD after covariate adjustment (26% reduction per 10 nmol/nmol increase in FTI).

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Low androgenization in elderly subjects with AD

Paoletti et al. found that androgen bioavailability was lower in 96 lean elderly subjects with AD than in 104 age-matched lean control subjects. Thus endocrine pattern may impair cognitive function and may be dependent on increased sex hormone binding globulin levels.

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The accompanying editorial by Henderson and Hogervorst points out that testosterone reduces formation of β -amyloid and hyperphosphorylation of tau protein in animal models of AD and may enhance specific cognitive skills in men. For hypogonadal men who are otherwise healthy, they note the possibility that interventions to increase free testosterone could reduce their risk of developing AD. However, whether testosterone might actually reduce AD incidence for hypogonadal men can best be answered in the context of randomized clinical trials. One strategy would be to target men who were both hypogonadal and at increased genetic risk for AD. Over 800,000 middle-age and elderly American men already use testosterone supplements, and preliminary clinical trials have begun to assess whether testosterone therapy can improve dementia symptoms in hypogonadal men with AD.

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Unilateral pallidotomy vs bilateral subthalamic nucleus stimulation in PD

Esselink et al. demonstrated in a randomized single-blind, multicenter trial of 34 patients with Parkinson disease (PD) that bilateral STN stimulation is more effective than unilateral pallidotomy in reducing symptoms in advanced PD.

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A twin study of essential tremor

Lorenz et al. studied essential tremor (ET) in 109 elderly Danish twins and found concordance rates for monozygotic twins of 77% to 93% compared to 25% to 59% for dizygotic twins. This evidence for heritability suggests the need for further linkage studies in families with ET.

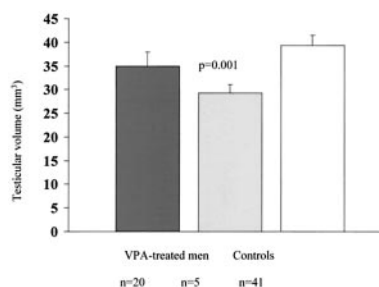
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Central sensitization for itch

Normally painful stimuli can elicit itch in chronic itch patients. This phenomenon corresponds to pain induced by pruritic stimuli in chronic pain patients. Ikoma et al. provide evidence for a new type of central sensitization to C-fiber input beyond A-fiber mediated allodynia and punctate hyperalgesia.

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Reproductive health and testicular function in men with epilepsy



Testicular volume in valproate-treated men with normal (dark grey bar) or abnormal (light grey bar) sperm, and in control men.

further reduced in men on carbamazepine.

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Isojärvi et al. evaluated reproductive function and testicular volume in men with epilepsy. Sperm abnormalities were found in men taking carbamazepine, oxcarbazepine, or valproate. The results also suggested that valproate may be associated with reduced testicular volume by ultrasonography in men with generalized epilepsy.

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The accompanying editorial by John R. Gates notes that these two articles provide important new information concerning the effects of epilepsy and medication on male gonadal function, altering both hormone levels as well as sperm morphology. The Bauer et al. study is particularly important because it includes epilepsy patients not on medication.

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■ Pure sleep epilepsies and seizures while awake

Patients who have had seizures only during sleep may nonetheless be concerned about the occurrence of a seizure while awake. In this prospective study of 161 patients by D'Alessandro et al., the estimated risk was 13% during 6 years of follow-up. It was 6.5% for patients with low sleep seizure frequency and good compliance with therapy.

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■ Hereditary spastic paraplegia with thin corpus callosum

Casali et al. show that hereditary spastic paraplegia with thin corpus callosum (HSP-TCC), which has been considered rare outside Japan, is frequent in Italy. The phenotype is fairly homogeneous, and includes impaired cognition. There are at least two loci for HSP-TCC, one of which is on chromosome 15q13-15.

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■ Successful treatment of infantile spasms with zonisamide

Lotze et al. studied the effectiveness of zonisamide in 23 patients with symptomatic infantile spasms. Six patients (26%) had complete control: spasm cessation and clearing of hypsarrhythmia.

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■ Language regression during topiramate therapy

Gross-Tsur and Shalev report three children with epilepsy whose language regressed during topiramate therapy. Recovery followed reduction or cessation of topiramate.

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■ Fat intake and cognitive function

Kalmijn et al. found that marine omega-3 polyunsaturated fatty acids and fatty fish intakes were related to a decreased risk of impaired cognitive function and speed among 1,613 middle-aged subjects, whereas higher dietary cholesterol intake was associated with an increased risk of impaired memory and flexibility.

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■ The impact of pregnancy on the metabolism of lamotrigine

Pennell et al. studied pregnant women on lamotrigine monotherapy. Lamotrigine clearance (daily dose/serum concentration) progressively increased throughout pregnancy, peaking at >330% of baseline at 32 weeks gestation.

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■ MRI suggests high altitude cerebral edema is vasogenic

Wong et al. report a patient with high altitude cerebral edema in which diffusion-weighted imaging suggested a vasogenic mechanism.

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■ The prevalence of migraine in neurologists

Neurologist Oliver Sacks, in correspondence, notes in response to the earlier paper by Evans et al. (*Neurology* 2003;61:1271-1272) that his own classical migraines were one of the reasons he was attracted to neurology and why he chose migraine as the topic of his first book.

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