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Introduction

This month's Focus on Geriatric Psychiatry section presents 5 articles that reflect the scientific progress in geriatric psychiatry and address several important areas: biomarkers of hyperprolactinemia in older persons with schizophrenia (Iwata et al), low hemoglobin levels as predictors of geriatric depression (Trevisan et al), predictors of psychosis in Alzheimer's disease (Weamer et al), a trial testing a telemedicine-administered psychotherapy compared to regular psychotherapy in older veterans (Egede et al), and a large cohort study of adherence to antidepressants as predictors of adherence to other prescribed medications (Marengoni et al). All 5 articles show increasing sophistication in research methods, ranging from the use of D<sub>2/3</sub> positron emission tomography (PET) imaging with [<sup>11</sup>C]-raclopride to analysis of large well-characterized cohorts to address predictors of geriatric depression and predictors of psychosis in patients with Alzheimer's disease, a trial of telemedicine psychotherapy in older veterans with depression, and examination of adherence to antidepressants as a predictor of overall treatment adherence. Each article represents a substantial contribution to the field of geriatric psychiatry.

Iwata et al examined the relationship between elevated prolactin levels and D<sub>2/3</sub> receptor occupancy using [<sup>11</sup>C]-raclopride PET in older adults with schizophrenia treated with either olanzapine or risperidone. They were able to establish a threshold of D<sub>2/3</sub> receptor occupancy at 66% to develop hyperprolactinemia with sensitivity of 0.44, specificity of 0.81, positive predictive value of 0.78, and negative predictive value of 0.48. This threshold was lower than that in younger patients (~73%). Female gender was also a predictor of elevated prolactin levels. This is the first article to indicate a threshold for receptor binding associated with increased prolactin levels in older patients with schizophrenia.

Trevisan and colleagues investigated the relationship between hemoglobin levels and depression in a large longitudinal cohort as part of the Northern Italian Progetto Veneto Anziani (PRO.V.A.) study. Baseline hemoglobin concentrations were further categorized in gender-specific tertiles; anemia was defined in men as hemoglobin < 13 g/dL and in women as hemoglobin < 12 g/dL. Depression was defined by a Geriatric Depression Scale score of ≥ 11/30 and confirmed by psychogeriatric specialists. Among 1,303 elderly subjects (737 women) without depression at baseline, 294 subjects (177 women) developed depression during 4.4 years of follow-up. Baseline hemoglobin or anemia were most strongly and inversely associated with incident depression at follow-up in men, but not in women. This is also a novel observation that provides clinicians with a useful marker predicting depression, possibly, via increased vascular risk in men.

Weamer and colleagues examined predictors of psychosis in 776 elderly subjects presenting to the Alzheimer's Disease Research Center at the University of Pittsburgh. All participants were diagnosed with mild cognitive impairment or possible or probable Alzheimer's disease and were without psychosis at entry. Psychotic symptoms were evaluated using the Consortium to Establish a Registry for Alzheimer's Disease Behavioral Rating Scale (BRS) every 6 months. One-year, 3-year, and 5-year cumulative incidences of psychosis were calculated with and without inclusion of death as a competing risk. The annual psychosis incidence was 10% (95% CI, 8%–12%) and remained remarkably consistent at 3 and 5 years. Psychosis incidence was strongly related to cognitive status at all time points. However, the incidence rate reached a plateau during the disease course, leveling out after the third year of the follow-up. Psychosis in Alzheimer's disease has been associated with a number of adverse clinical outcomes. Estimating the risk of psychosis onset within clinically defined subgroups of individuals is a first step toward developing preventive intervention in older adults with cognitive decline and dementia.

The article by Egede et al reports the results of a noninferiority trial of psychotherapy delivered via telemedicine or same-room care to 241 older veterans with depression. The primary outcomes included quality of life (36-item Short Form Survey), satisfaction (Charleston Psychiatric Outpatient Satisfaction Scale), treatment

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credibility, and service delivery perception scores obtained at 4 weeks, 8 weeks, 3 months, and 12 months. No statistically significant difference in patient satisfaction or treatment credibility occurred over the course of the study. This study found that telemedicine is a viable alternative modality for providing evidence-based psychotherapy for elderly patients with depression. These findings are helpful to the field, including the administrators of health care institutions, in making decisions about telemedicine use that can increase accessibility and acceptability of psychotherapy for older adults, especially those who live in rural areas or are homebound.

Finally, another large Italian cohort (Marengoni et al) evaluated the prevalence of prescription and adherence to selective serotonin reuptake inhibitors (SSRIs) and serotonin-norepinephrine reuptake inhibitors (SNRIs) as predictors of overall medication adherence in 3,762,299 older adults in a cross-sectional analysis of administrative data comprehensive of all prescribed drugs reimbursed by the Italian national healthcare system. New prescriptions of SSRIs and SNRIs to persons 65 years and older were analyzed, as were prescriptions of antihypertensives, statins, psychiatric drugs, antidiabetics, antiplatelet drugs, anticoagulants, drugs for chronic obstructive

pulmonary disease, and drugs for osteoporosis. Adherence was defined as a proportion of days covered of more than 80%. Adherence to SSRI and SNRI prescriptions ranged from 31.2% in those aged 95+ years to 41.8% in those aged 75–84 years. Persons adherent to SSRI and SNRI prescriptions were more likely to be adherent to the other medications, after adjustment for age, gender, and number of drugs prescribed. The highest association was found for adherence to psychiatric drugs. This is an important piece of information for clinicians, most likely related to the fact that untreated depression will lead to adverse health outcomes including higher morbidity and mortality, but successful treatment of depression can reduce these risks.

We hope that our readers will find the information provided in this issue of *JCP* clinically relevant for making treatment decisions for their patients.

**Helen Lavretsky, MD, MS**  
hlavrets@ucla.edu

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