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Integrated Care of an Aging HIV-Infected Male-to-Female Transgender Patient

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Case Study

L.Z. is a 68-year-old Hispanic transgender woman who was followed in the authors' adult outpatient HIV clinic between 1998 and 2007. L.Z. received both primary care and HIV specialty care in the authors' clinic and was started on antiretroviral therapy (ART) the year of her initial visit. She was also followed up by a psychiatrist for depression, a cardiologist for coronary artery disease, an endocrinologist for diabetes, and a urologist for urethral stricture. She was scheduled for vaginal repair because her constructed vagina was apparently closing.

Disclosures

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Her medications included saquinavir mesylate, 500 mg, two tablets twice daily; ritonavir, 100 mg, one tablet twice daily; didanosine, 400 mg, one tablet once daily; zidovudine, 300 mg, twice daily; rosuvastatin calcium, 10 mg, once daily; hydrochlorothiazide, 12.5 mg, once daily; benazepril hydrochloride, 5 mg, once daily; atenolol, 50 mg, once daily; aspirin, 81 mg, once daily; bupropion hydrochloride, 100 mg, once daily; sertraline hydrochloride, 100 mg, once daily; metformin, 500 mg, twice daily; glipizide ER, 10 mg, once daily; insulin glargine, rDNA origin insulin, 40 units, subcutaneous at bedtime; and insulin lispro, rDNA origin insulin, 25 units in the morning and 15 units in the evening with meals. L.Z. was last seen in the authors' facility in 2007. At that time, her CD4 + T cell count was 1,031 cells/mm³, and her viral load (HIV-RNA) was undetectable. Other laboratory data included hemoglobin A1C = 7.4% (4.7–6.4), cholesterol = 193 mg/dl (150–200), low-density lipoprotein = 121 mg/dl (65–160), and triglyceride = 136 mg/dl (40–160).

Medical History

L.Z. underwent sexual reassignment surgery (SRS) 11 years before her first clinic visit and was diagnosed as having HIV infection in 1997 at the age of 57 years. In 1998, she was started on combination ART. At that time she also began lipid therapy for elevated triglycerides. In 2000, she began treatment for diabetes mellitus, elevated cholesterol, and hypertension. In 2001, she reported difficulty with penile vaginal insertion; she was also treated for herpes genitalia and microscopic pyuria. In 2002, she was referred to psychiatry for evaluation of depression. The patient was being followed up by the gynecology clinic for vaginal stricture as well as by urology for recurrent pyuria and difficulty in urination. In 2005, a cystoscopy was performed for complaints of difficulty urinating, and L.Z. was found to have a stricture of the urethral meatus at the constructed vagina. In 2006, while vacationing in another country, L.Z. reported having a myocardial infarction. On her return, she was seen by a cardiologist who performed a cardiac catheterization with stent placement.

In 2007, L.Z. was admitted to another facility with paroxysmal atrial tachycardia because of drug-drug interaction between digoxin, atenolol, and metoprolol. The patient was followed up by a cardiologist to whom she did not disclose her HIV status; the cardiologist placed her on rosuvastatin calcium while she was also taking pravastatin sodium. Additionally, she was followed up by an endocrinologist at the same facility who was unaware of her HIV status or the medications prescribed for her by the HIV specialist.

The Aging HIV-Infected Male-to-Female Transgender Patient

Older age is associated with the onset of several chronic conditions, including cardiovascular diseases, diabetes mellitus, and depression (Gebo, 2004). Aging patients have long-term complications of HIV infection in addition to chronic medical conditions independent of HIV. Adverse effects are magnified as a result of the combination of medications prescribed for HIV infection and multiple medications used to treat other chronic diseases (Dakin, O'Connor, & Patsdaughter, 2006; Meadows, 2003). Polypharmacy also contributes significantly to medication errors, drug-drug interactions, drug-disease interactions, and herb-drug interactions and toxicities (Zdanowicz, 2006).

In addition to complications from chronic diseases, the aging HIV-infected male-to-female (MTF) transgender patient has the added burden of complications from hormones, SRS, stigma, and disparities in health care independent of ethnicity (Keatley & Bockting, 2008). Stigma may prevent disclosure of HIV status to other providers, which contributes to drug-drug interactions as well as other serious primary care and medical management problems.

Compared with younger HIV-infected adults, higher levels of psychological problems have been reported in HIV-infected older adults. These symptoms are associated with high life-stressor burden, low level of support from family and friends, and reduced access to health and social services (Heckman et al., 2002). Additionally, older transgender persons often remain in abusive relationships (Witten & Eyler, 2006). Psychosocial issues such as perceived or actual lack of social support, abuse, and discrimination are intensified in aging HIV-infected transgender individuals, resulting in a vicious cycle of mental health problems including substance abuse, depression, anxiety, and suicidal ideation, along with suicide attempts (Centers for Disease Control and Prevention [CDC], n.d.; Witten & Eyler, 2006).

Epidemiology of HIV

Among persons living with HIV infection, 770,000 (70%) are between 25 and 49 years of age, whereas 280,000 (25%) are 50 years of age or older (CDC, 2008). The HIV prevalence estimates from MTF-focused studies have ranged from 11% to 78% (San Francisco AIDS Foundation, 2009). One study reported that the rate of HIV in African American transgender women was 56.3% (Keatley & Bockting, 2008). However, the prevalence of HIV infection in transgender persons over 50 years of age remains unknown (CDC, 2007).

Public Health Effect of Chronic Diseases

Federal spending on HIV care in 2004 was \$11.6 billion; in comparison, the total cost of cardiovascular disease, the first-ranking cause of death in the United States in 2006, was \$403 billion. Cardiovascular disease causes more deaths among all racial and ethnic groups than any other disease. Diabetes mellitus has a total cost of \$132 billion and was the sixth leading cause of death in 2002 in the United States (Agency for Healthcare Research and Quality, 2006). Mental health conditions also take a toll on the U.S. economy, both in terms of treatment costs and loss of functionality and productivity (Lurie, Manheim, & Dunlop, 2009); in 2000, the estimated cost of depression was \$52.9 billion (Greenberg et al., 2003). However, prevalence rates for these chronic conditions and cost data among transgender populations are unavailable.

Health Care Quality and Disparities

The Institute of Medicine defined health care quality as “the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge” (Campbell, Roland, & Buetow, 2000, p. 1614). Barriers to optimal health outcomes among aging HIV-infected patients with multiple comorbidities include decreased health literacy, lack of social and emotional support, polypharmacy, and physical limitations (Bayliss, Steiner, Fernald, Crane, & Main, 2003).

The HIV-infected transgender population has added barriers that contribute to health disparities. These obstacles include lack of health insurance or underinsurance for health services, lack of knowledge among health care providers and support staff, and insensitivity, hostility, and discrimination toward this population (Lombardi, 2001).

Integrated Care for the Male-to-Female Patient With Complex Medical Disorders

Primary care, an integrated component of the health care system, involves the guidelines, procedures, responsibilities of each team member, and process of care. Among other activities, the components of primary care include health promotion and patient education, disease prevention, health maintenance, and performance measured by patient outcomes (American Academy of Family Physicians, 2008). Integrated patient-centric care involves interdisciplinary and multidisciplinary coordination of services across the continuum of patient care to ensure quality of patient care and improve patient functional status and quality of life (Kodner & Spreeuwenberg, 2002; Mehrotra, Epstein, & Rosenthal, 2006).

The HIV outpatient clinic is an example of a primary care setting that provides initial HIV care, often at the time of an individual's entry into the health care system and across the continuum of care. Primary care provides the framework for HIV-infected patients to receive health promotion, disease prevention, health maintenance, counseling, and patient education (American Academy of Family Physicians, 2008), in addition to treatment for HIV and other chronic diseases (Sheth, Moore, & Gebo, 2006).

The MTF transgender population requires extensive care coordination as a consequence of complications from SRS and chronic diseases including HIV. Integrated care of the aging transgender patient should be expanded to include information about social support, with ongoing access to social work and mental health support at every visit. Care coordination should facilitate timely referrals for multiple comorbidities to promote efficient, effective continuity of care and improve patient satisfaction and quality of life.

Clinical Considerations for Care of the Aging Male-to-Female Transgender Patient

A detailed sexual history should be obtained from the transgender patient to determine current risk factors and to provide counseling on the importance of condom use and limiting sexual partners. In addition to routine prevention education, the MTF patient should be educated on the importance of breast self-examinations and annual mammograms. Complications of cigarette smoking and estrogen use should be emphasized; a referral should be made to a smoking cessation program, and/or nicotine replacement therapy should be recommended, if required. The possibility of drug-alcohol interactions should be addressed, and the aging MTF transgender patient should be encouraged to limit alcohol intake to one drink per day. A detailed genitourinary history and examination should be performed on a regular basis to identify symptoms of complications from surgery in addition to symptoms of prostate enlargement, because the prostate is not removed during SRS.

Strategies to improve medication adherence with polypharmacy should be included in routine clinic visits (Jani et al., 2004). Finally, the importance of disclosure of all medications including over-the-counter drugs must be emphasized and the potential for drug-drug interaction reviewed.

Discussion

We presented the case of a 68-year-old HIV-infected MTF transgender individual who also carried diagnoses of diabetes mellitus, hyperlipidemia, hypertension, coronary artery disease, myocardial infarction, cardiac catheterization, genital herpes simplex, and depression. She also had special psychosocial issues specific to aging transgender persons and had developed complications from SRS with urethral stricture and closure of the surgical vagina. She is taking numerous medications in addition to ART. L.Z.'s complex constellation of health concerns requires the medical, surgical, and psychiatric care of several specialists including advanced practice nurses. The case illustrates the need for integration of care to ensure appropriate, safe, and economical health outcomes. Pathways of communication between the patient and providers as well as among providers are essential. We suggest that the primary care HIV clinic is an integrated health care system (Crosson, 2009) that can provide the coordination of safe and quality care for the HIV-infected transgender population.

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