7e Men's Health

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The emergence of men's health as a distinct discipline within internal medicine is founded on the evidence that men and women differ across their life span in their susceptibility to disease, in the clinical manifestations of the disease, and in their response to treatment. Furthermore, men and women weigh the health consequences of illness differently and have different motivations for seeking care. Men and women experience different types of disparities in access to health care services and in the manner in which health care is delivered to them because of a complex array of socioeconomic and cultural factors. Attitudinal and institutional barriers to accessing care, fear and embarrassment due to the perception by some that it is not manly to seek medical help, and reticence on the part of patients and physicians to discuss issues related to sexuality, drug use, and aging have heightened the need for programs tailored to address the specific health needs of men.

Sex differences in disease prevalence, susceptibility, and clinical manifestations of disease were discussed in Chap. 6e ("Women's Health"). It is notable that the two leading causes of death in both men and women—heart disease and cancer—are the same. However, men have a higher prevalence of neurodevelopmental and degenerative disorders; substance abuse disorders, including the use of performance-enhancing drugs and alcohol dependence; diabetes; and cardiovascular disease; and women have a higher prevalence of autoimmune disorders, depression, rheumatologic disorders, and osteoporosis. Men are substantially more likely to die from accidents, suicides, and homicides than women. Among men 15–34 years of age, unintentional injuries, homicides, and suicides account for over three-fourths of all deaths. Among men 35–64 years of age, heart disease, cancer, and unintentional injuries are the leading causes of death. Among men 65 years of age or older, heart disease, cancer, lower respiratory tract infections, and stroke are the major causes of death.

The biologic bases of sex differences in disease susceptibility, progression, and manifestation remain incompletely understood and are likely multifactorial. Undoubtedly, sex-specific differences in the genetic architecture and circulating sex hormones influence disease phenotype; additionally, epigenetic effects of sex hormones during fetal life, early childhood, and pubertal development may imprint sexual and nonsexual behaviors, body composition, and disease susceptibility. Reproductive load and physiologic changes during pregnancy, including profound hormonal and metabolic shifts and microchimerism (transfer of cells from the mother to the fetus and from the fetus to the mother), may affect disease susceptibility and disease severity in women. Sociocultural norms of child-rearing practices, societal expectations of gender roles, and the long-term economic impact of these practices and gender roles also may affect disease risk and its clinical manifestation. The trajectories of age-related changes in sex hormones during the reproductive and postreproductive years vary substantially between men and women and may influence the sex differences in the temporal evolution of age-related conditions such as osteoporosis, breast cancer, and autoimmune disease.

In a reflection of the growing attention to issues related to men's health, health clinics focused on the health problems of men are being established with increasing frequency. Although the major threats to men's health have not changed—heart disease, cancer, and unintentional injury continue to dominate the list of major medical causes of morbidity and mortality in men—the men who attend men's health clinics do so largely for sexual, reproductive, and urologic health concerns involving common conditions such as androgen deficiency syndromes, age-related decline in testosterone levels, sexual dysfunction, muscle dysmorphia and anabolic-androgenic steroid use, lower urinary tract symptoms, and medical complications of prostate cancer therapy, which are the focus of this chapter. Additionally, new categories of body image disorders have emerged in men that had not been recognized until the 1980s, such as body dysmorphia syndrome and the use of performance-enhancing drugs to increase muscularity and lean appearance. Although menopause in women has been the subject of intense investigation for more than five decades, the issues that are specific to men's health are just beginning to gain the attention that they deserve because of their high prevalence and impact on overall health, well-being, and quality of life.

AGING-RELATED CHANGES IN MALE REPRODUCTIVE FUNCTION (SEE CHAP. 411)

A number of studies have established that testosterone concentrations decrease with advancing age. This age-related decline starts in the third decade of life and progresses thereafter (Fig. 7e-1). Low total and bioavailable testosterone concentrations are associated with decreased skeletal muscle mass and strength, higher visceral fat mass, insulin resistance, and increased risk of coronary artery disease and mortality (Table 7e-1). Most studies suggest that these symptoms and signs develop with total testosterone levels below 320 ng/dL and free testosterone levels below 64 pg/mL in older men. Testing for low testosterone in older men should be limited to those with symptoms or signs attributable to androgen deficiency.

Testosterone therapy of healthy older men with low testosterone increases lean body mass, grip strength, and self-reported physical function (Fig. 7e-2). Testosterone therapy also increases vertebral but not femoral bone mineral density. In men with sexual dysfunction and low testosterone levels, testosterone therapy improves libido, but effects on erectile function and response to selective phosphodiesterase inhibitors are variable (Chap. 67). As discussed in Chap. 411, there is concern that testosterone therapy may stimulate the growth of prostate cancers.

Sexual Dysfunction (See Chap. 67) Various forms of sexual dysfunction are a major motivating factor for men seeking care at men's health clinics. The landmark descriptions of the human sexual response cycle by Masters and Johnson, demonstrating that men and women display predictable physiologic responses after sexual stimulation, provided the basis for rational classification of human sexual disorders. Accordingly, sexual disorders have been classified into four categories depending on phase of sexual response cycle in which the abnormality exists:

1. Hypoactive sexual desire disorder
2. Erectile dysfunction
3. Ejaculatory and orgasmic disorders
4. Disorders of pain

Classification of the patient's disorder into these categories is important because the etiologic factors, diagnostic tests, and therapeutic

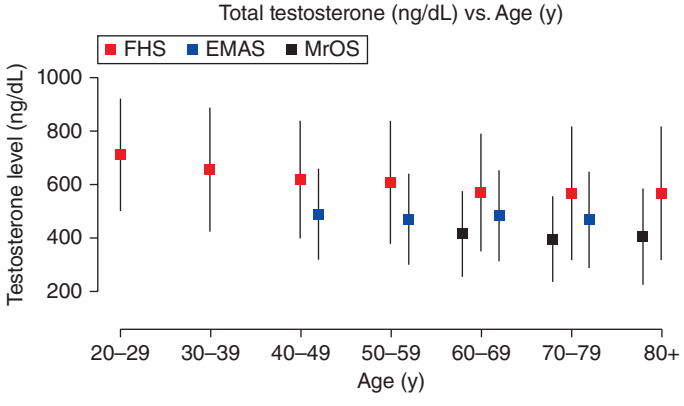

FIGURE 7e-1 Age-related decline in total testosterone levels. Total testosterone levels measured using liquid chromatography tandem mass spectrometry in men of the Framingham Heart Study (FHS), the European Male Aging Study (EMAS), and the Osteoporotic Fractures in Men Study (MrOS). *(Reproduced with permission from S Bhasin et al: J Clin Endocrinol Metab 96:2430, 2011.)*