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Review

Sexually transmitted infections and the aging female: Placing risks in perspective

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ABSTRACT

Gynecological literature is replete with multiple papers on sexually transmitted infections (STIs) in young women. Although those past the reproductive prime may well be at lower risk for STIs than women in the peak reproductive years, STIs are regularly seen in the older cohort and are a cause for significant morbidity and distress. Care givers reluctantly approach or are outright amiss in assessing sexual health of their aging patients, nor is this population adequately counseled regarding practices of safe sex. Sexuality among the aging population, safe behaviors, and diagnostic challenges of STIs in an older cohort are herein discussed.

Contents

The vast majority of literature on sexually transmitted infections (STIs) focuses on women in reproductive ages. The health burden of STI's, while primarily borne by the younger populations, is not trivial in the aging; in the United States in 2008, the incidence of chlamydia infections was 3275 per 100,000 women aged 15–19 compared to 8 per 100,000 in women aged 55–64 [1]. Also, the sequelae of STI's such as infertility and ectopic pregnancy are clearly more compelling as health issues in the younger women.

According to data from the UK Health Protection Agency from 2002 to 2006, in women 45 years of age and older, rates of chlamydia have increased by 25%, gonorrhea by 22%, syphilis by 100%, herpes by 8%, and warts by 9% [2]. Acquired immune deficiency syndrome (AIDS) cases diagnosed in adults aged 50 years old or older represent a consistent 10% of the cumulative number of AIDS cases detected since the beginning of the epidemic [3]. The main exposure route for women is heterosexual contact. In Florida, known for its large retirement communities, 25% of all HIV cases occur in older heterosexuals [4]. HPV acquisition is also notable in older populations. One recent survey noted the rate of newly detected infections in an 18–25 year old cohort was 36%; the cohort aged 42 and older still showed an acquisition rate of 13.5% [5]. Although this study was interpreted to show that prophylactic vaccination had low benefit for an older population, it still documented significant HPV transmission.

Even if they do not constitute a large proportion of reportable infections, STIs in older adults still represent a challenge for health care professionals. In one recently released study of adults aged 67–99, nearly 1% of women during a 9 year study period were diagnosed with an STI [6]. The focus of this paper is to underscore that aging women remain an at risk population for STI's; a discussion on factors which lead to transmission, lack of use of STI preven-

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tative measures by older women, and diagnostic and educational challenges for the health care providers are addressed.

1. Aging, sexuality and sexual exposure

Postmenopausal women remain sexually active. Given the gender disparity in morbidities of aging, availability of a sexual partner may be construed as a significant determinant of sexual practices in aging women. Some studies show that 65% of women aged 51–64 engage in sexual intercourse at least once a week [7]. Another survey noted that 34% of married women aged 60–94 reported engaging in sexual activity in the past 3 months compared to 4% of the non-married women, underscoring the relevance of a partner in the context of sexual activity [8].

2. STI spectrum in the aging populations

In a study of Washington State's sexually transmitted disease surveillance data, the most common STIs were non-gonococcal urethritis in men and genital herpes in women, in the 50–80 year old age group [9]. Chlamydia was reported separately; notable was that the majority of chlamydial cases in men were symptomatic. In contrast, only 1/3rd of the detected cases of Chlamydia infection in women were associated with symptoms; the majority were identified on screening asymptomatic women, underscoring the silent nature of this entity.

STI symptoms can mimic menopausal symptoms. Chlamydia and gonorrhea may present as pelvic pain, deep dyspareunia, and post-coital bleeding. Herpes present with vulvar ulcerations, soreness or dysuria [2]. As many postmenopausal women do suffer from atrophic symptoms, or vulvar dystrophies, the differential diagnoses must include all potentials.

3. STI transmission risks in the aging

Relationship transitions (secondary to separation, divorce, widowhood) and new sexual encounters are not uncommon in aging cohorts [7]. While risk of unintended pregnancies is incentive enough for utilization of condoms by younger women, there is less of an incentive for adoption of barrier methods by postmenopausal women. Even in a younger cohort of divorced and separated women, only 11% of women reported condom use regularly, with 41% never using condoms, and 38% employing them less than half the time [10]. "In the area of sexuality, women tended to feel like teenagers in spite of their chronological ages," notes one expert investigating the lack of preventative behaviors against HIV infection in women resuming sexual activity following long-term monogamous relationships [10]. In one national survey well into the HIV epidemic, less than 4% of sexually active heterosexual older Americans with at least one risk factor for HIV infection had used condoms consistently in the preceding 6 months [9].

Persistent at risk cohorts in this category also would include wives of older, closeted married men engaging in sex with men and older female intravenous drug users exchanging sex for drugs [11].

Vaginal dryness and thinning of the vaginal mucosa may facilitate the transmission of STIs. Postmenopausal vaginal epithelium is likely to become easily inflamed and irritated from coital friction, offering a receptive environment for transmission of certain STI's [7,12]. All women naturally have a larger mucosal [11] surface area exposed to seminal fluid, which automatically leads to greater likelihood of disease acquisition between partners, compared to female to male transmission. Another concern is that advancing age leads to a diminution in cellular and humoral immunity, as well as decreased T cell activity and immunoglobulin production, which in turn make aging tissues more susceptible to HIV and other STIs [8].

One cannot minimize the contributions of male sexual performance enhancers on STI risk across populations. Since its introduction in 1998, sildenafil (Viagra) set the record for the fastest initial sales growth of any pharmaceutical; 14 million prescriptions were filled in 2001. In a study of "The association between widowhood and risk of diagnosis with a sexually transmitted infection in older adults", the study time was broken down to before and after the introduction of sildenafil [6], with a greater association of loss of a spouse and STI diagnosis noted in men after the introduction of sildenafil. Some qualitative studies have also suggested a greater likelihood of husband infidelity in the post-sildenafil era [13]. The first suggestion of increased STI activity after the introduction of sildenafil was the statistic of cases of gonorrhea in the United States. In 1998, 12,414 gonorrhea cases were reported in persons 45 years of age or older, an increase of 18.2% from 10,504 cases in 1997 in this age group [14].

4. The role of health care provider

Although many studies document that the majority of women remain sexually active beyond menopause, health care providers are almost uniformly remiss in discussing issues of sexuality and sex with their older patients. In one recent study, although older and younger women equally expressed a need for sexual information, for 68% of the women older than 65 the topic of sexuality had never arisen during an office visit [4]. For 10% of these women, the physician raised the topic; for 22%, the patient herself raised the topic. One third of the women reported they thought their physician was embarrassed by the topic. The majority of women noted that it was easier to discuss sexual concerns if the physician had raised the topic. The authors of this study noted that knowledge deficits could adversely the health of older women; few of the women in this study had expressed concerns regarding STIs and HIV transmission. Several studies have shown that older women receive less counseling regarding STIs than younger women and mid-life men [7]. One survey of primary care physicians found that most physicians reported that they rarely or never discuss HIV or AIDS with patients older than 50 years [15].

When asked to comment on sex education curriculum for medical students, Dr. Ruth Westheimer noted that medical students needed to be taught to examine patients who are "of their parents' and grandparents' age, and realize that they too are sexual beings. Many students have still not learned to accept older people as sexual beings" [16].

Older women, and even men, will benefit from specifics on condom use. Unfortunately, the "burden of initiating discussion about HIV preventative behaviors, by default, usually falls on the woman" [10]. Dr. Rich further states, "Rusty skills from another time and place must be resurrected and adapted to the current sexual milieu," in a new relationship.

Women who are sexually active need to be counseled regarding their risks for STIs and offered targeted and individualized screening as appropriate. Health care providers need to engage with their patients in discussions about sexual behavior.

In older patients, there is a tendency to delay a visit to a health care provider till the development of bothersome symptoms. Factors suggested include embarrassment, wanting to "wait and see" and self-treatment. It is also felt that a lack of awareness about their risk of infection may delay their attendance [12]. This delay then can magnify the spread of infection to other sexual partners [2].

5. Health consequences of STI's

Of the common STI's, the disease with the greatest health and communal consequences may be HIV. Women who are infected with HIV seem to go through menopause earlier, although many

of the coincidental issues with many HIV positive women, such as smoking and drug use, also depress ovarian function [17] HIV infection also may exacerbate menopausal symptoms, which appear earlier and with greater intensity.

HIV infected women also display an increased prevalence of low bone mineral density, and worse profiles of cardiovascular markers than the non-infected menopausal women. Women with HIV also are at risk of HIV-related neurocognitive impairment, which can confound the issue of the possible menopause related cognitive decline.

As mentioned earlier, older women may still acquire infection with HPV. Current Pap smear guidelines do reduce testing in older women; however, women through age 70 are still encouraged to have periodic Pap smears. Women known to be HPV positive need regular Pap smear testing, and need to be reminded of this recommendation. Risks for cervical, vulvar and perianal carcinomas must be considered in the context of broader implications of HPV infection.

As with younger women, the presence of one STI serves as a marker for the presence of other STIs. Women should be appropriately screened for the presence of other STIs when they are tested positive for any sexually transmitted disease. Similarly, as with younger women, the patient should be counseled as to therapy for all of her partners. As with a younger patient, appropriate follow up to assure cure is also recommended.

6. Conclusions

Although the general belief that "sex is improper or unmentionable" for older women has never been true, it is becoming even less valid when young adults from the generation of the 1960s are now reaching their 60s and 70s [2]. Given that postmenopausal women are sexually active, health care practitioners need to educate and evaluate them all appropriately. Our patients need to be encouraged to continue sexual activity, but they also need to be educated on the risks of unsafe behavior.

We also as health care providers need to appreciate our patients' desires, and to keep them safe. We need to encourage practitioners, particularly our younger colleagues, to discuss sexual activity with postmenopausal women, and to remember that our patients, just as our sexually active adolescents, are at risk for STIs, and to counsel, screen and treat, appropriately.

Competing interests

I have consulted for Bayer, Novogyne, Wyeth Ayerst, Enzymatic Therapies, Novo Nordisk. However, none of these companies (to the best of my knowledge) are involved in products used to diagnose or treat sexually transmitted infections.

Contributors

There are no other contributors to this article. I wrote the entire article, and submitted it to Dr. Lubna Pal, associate editor for editing. The editing on the manuscript has been done by Dr. Pal.

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