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## Predictors of postmenopausal dyspareunia

Kao and colleagues [1] have recently reported the extent to which levels of estrogens and progesterone, vulvovaginal atrophy, cognitive-emotional factors, and dyadic adjustment are predictive of the intensity of postmenopausal dyspareunic pain. This study was conducted in a final sample of 182 postmenopausal women aged 45–78 years screened by a telephone interview who received a remuneration to undergo a structured interview concerning sociodemographic status as well as medical and pain histories, gynecological examination, cytological evaluation, a blood draw, and to answer a series of self-report questionnaires to measure pain experience, mood (anxiety and depression) and relationship adjustment and satisfaction. Both natural (n = 153) and surgical (n = 29) menopausal women were included, as well as those using different forms of hormone therapy.

Hormone levels were not found to be consistent predictors of pain severity. Maturation value and cognitive-emotional variables (e.g. catastrophization, depression, anxiety) were significant predictors of vestibular pain, which affected over 90% of the women. Relationship adjustment variables were inversely associated with pain severity within several genital locations.

The authors concluded that the traditional hypoestrogen and vulvovaginal atrophy conceptualization of postmenopausal dyspareunia is an insufficient explanatory model, and that pain is also influenced by cognitive, affective, and dyadic factors.

#### Comment

There is no doubt that low estrogen is not the sole factor determining symptoms related to vulvovaginal atrophy. Indeed, many other biological factors play a role such as hypoandrogenism, parity, smoking, some drugs and frequency of coital activity [2]. In addition, the idea is not new that several intrapersonal and interpersonal issues may also affect the quality of relationships which are extremely important for expressing sexual feelings and behaviors [3]. However, estrogen therapy, delivered both locally and systemically, is the gold standard to treat vulvovaginal atrophy [4] with a significant improvement in sexual health [5].

Kao and colleagues [1] designed a study in which about one-quarter of the women reported dyspareunia before menopause, suggesting that sexual pain proceeds the change in hormonal milieu. In addition, the undetectable dose of estradiol and the very low levels of progesterone at postmenopause may be responsible for the lack of correlation with vaginal atrophy found by the authors. It has been previously shown that hormonal and some psychological variables are relevant to sexual function in symptomatic women during menopausal transition and at early menopause, but their role differs with the specific stage of reproductive aging [6]. Therefore, to analyze a sample of recently postmenopausal women together with very old women who have had estrogen deficiency for many years may not be the correct approach to prove the idea that dyspareunia is not estrogen-dependent in postmenopausal women. Indeed, the impact of emotional and relational factors is present during the entire reproductive life span, and sexual pain disorders are often the result of a multidimensional impairment irrespective of the reproductive stage [7]. In addition, the potential role of androgen in women's sexual response, not only in modulating sexual drive but also in affecting vulvovaginal tissue, has been overlooked by the authors and deserves further attention [8].

In conclusion, even though the results of the study by Kao and colleagues [1] point out the need for an integrated view of sexual function at menopause and the importance of the partner's relationship in the management of sexual pain, further well-designed studies are necessary before minimizing the role of estrogen treatment in sexual well-being throughout menopause and beyond.

Rossella Nappi

Gynecological Endocrinology & Menopause Unit, University of Pavia, Italy

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