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Review Article

Hysterectomy Improves Sexual Response? Addressing a Crucial Omission in the Literature

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ABSTRACT The prevailing view in the literature is that hysterectomy improves the quality of life. This is based on claims that hysterectomy alleviates pain (dyspareunia and abnormal bleeding) and improves sexual response. Because hysterectomy requires cutting the sensory nerves that supply the cervix and uterus, it is surprising that the reports of deleterious effects on sexual response are so limited. However, almost all articles that we encountered report that some of the women in the studies claim that hysterectomy is detrimental to their sexual response. It is likely that the degree to which a woman's sexual response and pleasure are affected by hysterectomy depends not only on which nerves were severed by the surgery, but also the genital regions whose stimulation the woman enjoys for eliciting sexual response. Because clitoral sensation (via pudendal and genitofemoral nerves) should not be affected by hysterectomy, this surgery would not diminish sexual response in women who prefer clitoral stimulation. However, women whose preferred source of stimulation is vaginal or cervical would be more likely to experience a decrement in sensation and consequently sexual response after hysterectomy because the nerves that innervate those organs, that is, the pelvic, hypogastric, and vagus nerves, are more likely to be damaged or severed in the course of hysterectomy. However, all published reports of the effects of hysterectomy on sexual response that we encountered fail to specify the women's preferred sources of genital stimulation. As discussed in the present review, we believe that the critical lack of information as to women's preferred sources of genital stimulation is key to accounting for the discrepancies in the literature as to whether hysterectomy improves or attenuates sexual pleasure. Journal of Minimally Invasive Gynecology (2011) 18, 288–295 © 2011 AAGL. All rights reserved.

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The following quotes from women after total hysterectomy and bilateral oophorectomy are consistent with anecdotal comments to the authors by women who have undergone this surgery:

- After surgery: "I notice a distinct lack of vaginal sensations with intercourse and no longer experience the intense vaginal orgasms as I had when my cervix was intact" [1].
- Before surgery: "He [the surgeon] said that the cervix has very few nerve endings and is of no sexual benefit" [2].
- After surgery: "Now my vagina feels strange…I have no libido, and there is no sensation in my nipples. Penetration is uncomfortable, and my orgasms are weaker" [2].
- After surgery: "I will never again enjoy the intense internal orgasms I experienced when my uterus and cervix were intact" [2].
- After surgery: "Sex…would have been great if I were still able to experience uterine contractions and cervical pressure" [2].

It is currently estimated that annually more than 600 000 hysterectomies (on average, more than 1 per minute) are performed in the United States [3]. These procedures are performed because of actual and possible malignant diseases, and benign conditions including pelvic pain, dyspareunia, uterine myomas (leiomyomas), adenomyosis, endometriosis, and menometrorrhagia. The types of hysterectomy include total (removal of the uterus and cervix) and subtotal

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(supracervical or supravaginal: removal of the uterus), with or without unilateral or bilateral oophorectomy. The surgical routes are abdominal, vaginal, and laparoscopic. Physical, more than psychological, factors that influence these choices have been reviewed recently by Sutton [4].

Effects of Hysterectomy on Sexual Response

A common concern of women who undergo hysterectomy is the possible deleterious effect of the surgery on their sexual response. The present article reviews the literature on the effects of hysterectomy on sexual response since the review by Zussman et al [5] in 1981. Those authors took an extreme position regarding a predominant role of physiologic rather than psychologic factors in sexual response after hysterectomy. In their 1981 review article, they observed that "Recent studies conducted in the United Kingdom showed that 33% to 46% of women report decreased sexual response after hysterectomy-oophorectomy. The prevailing theory in the United States for more than 30 years in counseling women has been that such decreased sexual response is infrequent and, if it does occur, is psychogenic. The postulates of the psychogenesis theory were examined and found no longer tenable in view of physiologic knowledge of female sexuality, which suggests that when sexual response is diminished after hysterectomy, hormonal changes (including ovarian androgen) and anatomic changes (removal of the cervix-uterus as a trigger for orgasm in some women) may be etiologic factors [5]." However, subsequent studies reported that psychologic factors also are important. For example, depression was reported to have a detrimental effect not only on postoperative symptoms but also on various aspects of sexual functioning [6,7].

This review does not consider reports based on hysterectomy performed because of malignant disease. The following is a brief summary of the reports in which the predominant effects of hysterectomy are a decrease in dyspareunia and no changes in sexual activity (frequency of intercourse and orgasm) or libido (sexual desire). One study reported that, compared with total hysterectomy, subtotal (supravaginal or supracervical) hysterectomy is more likely to preserve orgasmic response [8]. Reported significant effects are summarized in Fig. 1; however, it must be emphasized that at least some deleterious effects of hysterectomy were reported in almost all of the articles and should not be disregarded.

In an extensive review of the literature, Maas et al [9] concluded that "The research on the effect of hysterectomy that has been performed to date is not conclusive." Those authors point out that while most women report improvement of sexual functioning after hysterectomy, this may be the result of relief of symptoms (e.g., vaginal bleeding and dyspareunia) from the diseased uterus. They also conclude that a minority of women develop sexual dysfunction as a result of hysterectomy and that more research is needed to clarify the issue of the effect of hysterectomy on sexual response.

Table 1 gives a summary of the literature on hysterectomy performed to treat benign conditions, and includes 20 articles published since 1977 that specifically tested the effects of hysterectomy on sexual response, for example, reporting the effects of hysterectomy on orgasm (frequency and intensity), sexual activity, libido (sexual desire), vaginal lubrication, and "sexual function," which in some articles is used as a general descriptor without definition. Fig. 1 summarizes in greater detail the findings in these articles.

It is difficult to discern a consistent pattern among these reports, perhaps because of factors that include the complexity of the innervation of the sexual system, the various types and surgical routes of hysterectomy, the various sources of sexual stimulation, the symptoms (e.g., pain or bleeding), the surgical method, the route of access (vaginal, abdominal, or laparoscopic), the degree of nerve sparing, the extent of the surgery (e.g., whether the cervix and ovaries were removed along with the uterus), the psychologic state of the women before and after surgery (e.g., whether depressed), the physiologic state (e.g., premenopausal), and/or the nature of the data collected (e.g., questionnaires administered).

In addition to alleviation of the discomfort of pain and bleeding via hysterectomy, resulting positive psychologic factors such as elimination of anxiety about cancer risk and unwanted pregnancy may trump negative factors, especially possible loss of genital sensibility [10]. Rhodes et al [7] stated, "This symptom relief may have led to increased sexual enjoyment and increased orgasm frequency. Furthermore, in terms of sexual functioning, the improvements due to symptom relief may have outweighed any lost sensation due to removal of the cervix."

Multiple factors have been proposed as bases for deleterious effects of hysterectomy on sexual response including the following: for some women, uterine contractions were an important aspect of orgasm; scar tissue prevents full ballooning of the vagina, which may make intercourse difficult because the vagina is less expansive; and internal scarring or nerve damage causes pain or interferes with feeling sexual pleasure; the reduced quantity of tissue results in diminished vasocongestion, which may decrease sexual arousal and the probability of multiple orgasms; and disruption of local nerve supply, vaginal blood flow, and anatomical relationships could have a negative effect on overall pelvic function. [11–14].

In addition to these factors, the pathologic condition for which the hysterectomy is performed may differentially affect sexual response. Thus, in their recent study, Peterson et al [15] concluded that "Women who had a hysterectomy due to endometriosis reported more difficulty and less satisfaction with orgasm than women who had a hysterectomy for other reasons." Furthermore, "there was no significant difference in changes in women's perception of their sexual functioning pre- and post-hysterectomy based on whether the women received no BSO [bilateral salpingo-oophorectomy], a BSO with HRT [hormone replacement therapy], or a BSO without HRT" [15].