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THE EFFECT OF VAGINAL ESTROGEN ON PESSARY USAGE

Hypothesis / aims of study

The purpose of this study was to compare pessary complications between postmenopausal women who used vaginal estrogen supplementation and those who did not use vaginal estrogen.

Study design, materials and methods

We performed a retrospective cohort study of patients in our practice who underwent a pessary fitting from January 1, 2007 through September 1, 2013. We followed all women for at least six months or until discontinuation of the pessary and abstracted demographic information, relevant co-morbidities and outcomes from the medical record. A woman who used any form of vaginal estrogen, including topical creams, suppositories, or rings, was categorized as a vaginal estrogen user. Our primary outcome was development of erosions within six months; secondary outcomes included discontinuation, reason for discontinuation, vaginitis, and vaginal bleeding. The incidence of erosion, vaginitis, vaginal bleeding and discontinuation within the first six months of use were assessed among women who had at least one follow-up visit to have the pessary checked. Data are presented as proportion or median (interquartile range).

Results

A total of 377 patients had a pessary fitting during the study period. Among these women, 76 (20.2%) were excluded due to premenopausal status at the time of pessary fitting. An additional 18 (4.8%) women were excluded as they were unable to be fit with a pessary. Of the remaining 283 women, 161 (56.9%) used vaginal estrogen and 122 (43.1%) did not use vaginal estrogen. The two groups were similar with regard to race, ethnicity, marital status, smoking status, diabetes, history of hysterectomy, history of bilateral salpingo-oophorectomy, and prolapse stage at time of pessary fitting (all P ≥0.16). Women using vaginal estrogen were significantly older (75.0 years (66.0-85.0)) than those not using vaginal estrogen (72.0 years (62.0-80.0), P=0.02). The most common type of pessary used by both groups was a ring with support followed by Gellhorn. The use of an incontinence dish was significantly lower in patients using estrogen (5.0%) compared to those who did not use estrogen (14.8%, P=0.005). Slightly more than half of the women using vaginal estrogen (59.0%) used a ring with support while less than half of the women not using estrogen used a ring with support (42.6%, P=0.006).

Women who used vaginal estrogen were less likely to have discontinued using their pessary at six months (14.9%) than women who did not use estrogen (50,8%; P <0.0001). Among those women who discontinued use by six months, the median time to discontinuation was longer among women who used estrogen (1.9 months (0.7-3.7) than those who did not (0.8 months (0.4-2.7)), but the difference did not reach statistical significance (P=0.06). The reasons for discontinuation were similar between the groups. For women using estrogen, the most common reason was a preference for surgical management (41.7%) followed by the pessary falling out or not fitting (25.0%) and pain (20.8%). Among the women not using estrogen, a preference for surgical management also was the most common reason for discontinuation (38.7%) followed by pain (29.0%) and the pessary falling out or not fitting (9.7%).

Women who used vaginal estrogen were more likely to have at least 1 pessary check (153; 95.0%) than women who did not use vaginal estrogen (88; 72.1%, P<0.0001). The incidences of erosion and vaginal bleeding within the first six months were similar between the two groups (Table 1). However, there was a higher incidence of vaginitis among women who did not use estrogen (12.5%) than those who did (2.6%, P =0.007).

Table 1. Pessary Complications in First Six Months of Followup

	All women (n=241)	Vaginal estrogen (n=153)	No vaginal estrogen (n=88)	P
Erosion*				1.0
Yes	16 (6.6)	10 (6.5)	6 (6.8)	
No	224 (93.0)	142 (92.8)	82 (93.2)	
Missing	1 (0.4)	1 (0.7)	0 (0.0)	
Vaginal bleeding*				0.31
Yes	7 (2.9)	6 (3.9)	1 (1.1)	
No	231 (95.9)	146 (95.4)	85 (96.6)	
Missing	3 (1.2)	1 (0.7)	2 (2.3)	
Vaginitis*				0.007
Yes	15 (6.2)	4 (2.6)	11 (12.5)	
No	221 (91.7)	145 (94.8)	76 (86.4)	
Missing	5 (2.1)	4 (2.6)	1 (1.1)	

*Only among those women who had pessaries checked

Data are presented as median (interquartile range) or n (%)

Interpretation of results

This study demonstrates that the incidence of complications, such as erosions, vaginal bleeding and vaginitis, are low among postmenopausal women using pessaries; however, rates of discontinuation are high. Women not using vaginal estrogen were more likely to develop vaginitis and to discontinue using their pessary. The increased incidence of vaginitis among non-estrogen users may be due to the changes that occur within the vagina in the postmenopausal woman, vaginal pH is more basic and there are fewer lactobacillus and basal cells. These changes have been shown to reverse in women using vaginal estrogen which may then decrease the risk of vaginitis among the vaginal estrogen users. We observed a similar incidence of erosions and vaginal bleeding between the two cohorts which may be due to the limited follow up of six months. A longer follow up time may have demonstrated differences in these complication rates.

The fact that the study population is from a single institution may limit the generalizability of the findings, and the study's design limited the information we could obtain about the cohort.

Concluding message

Patients using vaginal estrogen exhibited a higher incidence of continued pessary use at six months than patients not using estrogen. Initial treatment with vaginal estrogen appears to be associated with decreased incidence of vaginitis and similar incidences of erosions and vaginal bleeding within the first six months of follow up. This data supports the consideration of vaginal estrogen supplementation to lengthen pessary use among postmenopausal women electing to use a pessary as the treatment modality for prolapse and/or urinary incontinence.

Disclosures

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