

Intravaginal energy-based devices and sexual health of female cancer survivors: a systematic review and meta-analysis

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Abstract

A systematic review and meta-analysis was undertaken to assess the efficacy and safety of intravaginal energy-based therapies (laser and radiofrequency) on sexual health of cancer survivors (CS) (breast cancer (BCS) and/or gynecological cancer (GCS)). PubMed, Scopus, Web of Science, and Cochrane Library were searched until 21/02/2019. Quality of reporting, methodology, and body of evidence were assessed using STROBE, MINORS, and GRADE. Primary outcomes were dyspareunia, dryness, and sexual health (FSFI, FSDS-R). Secondary outcomes were burning, itching, dysuria, incontinence, Vaginal Health Index Score (VHIS), microbiome-cytokine evaluation, and adverse events. Main analyses, subgroup analyses, and sensitivity analyses were performed. Eight observational studies (n=274) were eligible for inclusion. None of the studies evaluated radiofrequency. BCS and BCS-GCS were included in 87% and 13% of studies, respectively. All primary outcomes improved significantly with the exception of FSDS-R (dyspareunia studies (n=233), standardized mean difference (StdMD) (-1.17), 95%CI [-1.59, -0.75]; p<0.001; I² =55%), vaginal dryness (4 studies (n=183), StdMD (-1.98), 95%CI [-3.31, -0.65]; p=0.003; I² =91%), FSFI (2 studies, n=28, MD (12.79), 95%CI [7.69, 17.89]; p<0.001; I² =0%). Itching, dysuria, and VHIS increased significantly, while burning was not improved. Serious adverse events were not observed by any of the studies. Intravaginal laser therapies appear to have a positive effect on dyspareunia, vaginal dryness, and FSFI of CS. However, the quality of evidence is "very low," with no data on intravaginal radiofrequency therapy. Further research with high-quality RCTs and long-term follow-up is needed to evaluate the value of energy-based devices as a therapeutic option for CS with sexual problems.