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(008) VAGINAL TESTOSTERONE ABSORBANCE AFTER SEXUAL AROUSAL

K. Clephane[1], *T. Lorenz*[1]
[1]*University of Nebraska - Lincoln*

Introduction: While topical (exogenous) estrogens have been a focus of treatment for vaginal pain, recent work has shown testosterone may also revitalize weakened vaginal tissue. This research has documented that vaginal tissue responds well to exogenous testosterone treatment, supporting the hypothesis that endogenous testosterone may play a significant role in vaginal health. However, is it not known how the dynamics of vaginal arousal may contribute to activity of endogenous testosterone within the vaginal environment. Specifically, there is reason to expect that vaginal sexual arousal may activate mechanisms within the vaginal tissue that increase absorption of testosterone from the mucosal layer into the tissue beneath.
Objective: This project aims to characterize the influence of vaginal arousal on the presence of testosterone in the vaginal

mucosa both pre- and post-arousal, and the within-person stability of these effects over time (3 weeks).
Methods: Analyses are drawn from an ongoing clinical trial in which participants complete 3 in-lab sessions spaced 3 weeks apart, in which they provided samples of cervicovaginal fluid before and after watching an erotic video (~7 minutes). For each fluid sample, participants insert a disposable menstrual cup, which sits loosely around the cervix, for about 10 minutes. After the post-arousal menstrual cup is removed, participants complete a survey battery that includes demographics and measures of sexual function and sexual desire.
Results: For the present analysis, data were drawn from 68 participants that had pre- and post-arousal samples for at least one study session. Preliminary tests revealed that, controlling for changes in fluid volume, testosterone in the vaginal mucosa decreased significantly between pre- and post-vaginal sexual arousal ($F(1, 197.26) = 67.29$, $p < .0001$). Additional data regarding the association between absorption of testosterone during arousal and self-reported sexual functioning will also be presented.
Conclusions: Though further work is needed to confirm testosterone is absorbed into the surrounding vaginal tissue, our findings suggest a significant movement of testosterone out of cervicovaginal fluid during sexual arousal. Likely, the increased blood flow that accompanies vaginal sexual arousal allows for greater absorption of testosterone originally present in the mucosa into the vaginal tissue. If vaginal sexual arousal allows for greater testosterone absorption, it may provide a unique window of time during which application of exogenous testosterone may be most advantageous. Further, if endogenous testosterone absorption happens during masturbation or sexual activity, this may function over the longer term as a protective factor for tissue integrity.
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