Prevalence of Orofacial Pain Among Women with Vulvodynia: Prospective Two Year Follow-Up Study

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BACKGROUND

Vulvar Vestibulitis (VVS) is the most common cause of vulvodynia in reproductive age women, affecting up to 15% of the general female population. Women with VVS have pain with intercourse, and sensitivity to touch on genital contact. Psychological characteristics such as anxiety and somatization are also common in the population. Evidence supports VVS as a complex pain disorder, akin to idiopathic musculoskeletal pain conditions, such as temporomandibular disorder, the most common form of orofacial pain (OFP). We have previously found that OFP was a common co-morbidity among women with VVS. Higher levels of anxiety, somatization, and psychological distress were found among women with VVS and OFP, than among those women with VVS and no OFP.

OBJECTIVE

The primary objective of this study was to assess the stability of our original findings and investigate the change in OFP symptoms over a 2 yr period among women with vulvar vestibulitis.

METHODS

The study was approved by the University of North Carolina IRB and conducted between July 20, 2006 and January 2, 2007 at the Vulvar Pain Clinic.

The subjects who participated in the original study were mailed a battery of questionnaires to assess their self-reported pain with intercourse in the 2 weeks prior, anxiety, somatization, and psychological distress using the following validated measures:

- *Gracely Pain Scale* assessing pain using a *Likert* scale of 0-100.
- *Spielberger State-Trait Anxiety Inventory*
- *Pennebaker Inventory of Limbic Languidness* (PILL) assessing somatization.
- *Brief Symptom Inventory* (BSI) assessing depression and distress.

Assessment of OFP was based on the same 9-item, validated screening survey used in the original study *(Zolnoun et al, 2008)*. Questionnaires were mailed to a total of 137 eligible women. Fifty-five percent (n=76) returned the completed questionnaires.

Statistical analysis was performed using STATA 9.0 Bivariate analysis was performed using ANOVA or Fisher exact tests. Bonferroni adjustments were made for multiple pair wise comparisons

RESULTS

- On average, women were 32 (SD=7.4), married (92%), white (91%), and nulliparous (66%); Ninety-six percent (n=73) had at least a college education. These did not differ between OFP categories.
- Participants were grouped within the following OFP categories: subclinical, clinical, and no OFP.
- Prevalence of OFP symptoms differed between baseline and 2 yr follow-up (p=0.001). Baseline prevalence of no OFP, subclinical OFP and clinical OFP was 22%, 31%, and 47% respectively. Two year follow-up prevalence was 32%, 33%, and 36%, respectively.
- Patients were more likely to have moved between categories if their baseline OFP diagnosis was *subclinical*. Less change in diagnosis was observed among the *clinical* (73%) and *no OFP* (53%) groups.
- Similar to our initial report, among women with VVS, those with OFP symptoms reported higher levels of anxiety (p=0.022) and somatization (p < 0.001) than women without OFP symptoms.
- Seven women underwent formal evaluation by OFP specialist; Five had TMD and 2 had no OFP.

Table 1: Psychological Characteristics of Subgroups of Women With Vulvar Vestibulitis.

Psychologic Scores	No OFP N=27 Mean (SD)	Subclinical OFP N=24 Mean (SD)	Clinical OFP N=25 Mean (SD)	P value	Subgroup Comparisons *No* vs. *Sub.* vs. *Clin.*	Population Norms (No OFP)	
$STAI_{state}$-anxiety	36.7 (9.3)	40.3 (11.7)	44.6 (9.0)	0.022	Clin > No	246	31.8 (9.3)
$STAI_{trait}$-anxiety	39.2 (11.5)	41.3 (9.9)	46.6 (10.5)	0.043	Clin > No	243	36.6 (8.9)
PILL-somatization	104.2 (18.6)	111.1 (21.2)	128.8 (26.5)	<0.001	Clin > Subclin. and No	240	103.3 (20.6)
Global Distress							
BSI-GSI	0.65 (0.50)	0.68 (0.60)	1.0 (0.55)	0.036	Clinical > No	231	53.5 (10.0)
Anxiety	0.66 (0.52)	0.88 (0.82)	1.1 (0.60)	0.055	Clinical > No	243	48.8 (11.7)
Somatization	0.50 (0.43)	0.62 (0.59)	1.0 (0.59)	0.002	Clinical > Subclin. and No	243	46.1 (12.2)
Depression	0.77 (0.80)	0.65 (0.80)	1.1 (0.89)	0.136	--	243	51.1 (11.7)

CONCLUSION

Among women with VVS, orofacial pain is a common complaint. After a 2 year time period, we continue to see higher levels of anxiety, somatization and psychological distress among women with VVS and clinical OFP when compared to women with VVS and no OFP. Stability of symptoms is highest in those women who are diagnosed with either clinical OFP or no OFP and less in those women with subclinical OFP. Further investigation into the nature of the overlap between these two intuitively disparate conditions is necessary to advance our understanding of their underlying biological processes