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WHY DENY DYSPAREUNIA ITS SEXUAL MEANING?

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ABSTRACT

WHY DENY DYSPAREUNIA ITS SEXUAL MEANING?

Dyspareunia, ie coital pain, is a sexual dysfunction with a multifactorial and multisystemic etiology. Predisposing, precipitating and maintaining factors, biological (muscular, endocrine, immunitary, neurologic, vascular, iatrogenic) and psychosexual, may variably interact in the individual woman. The *natural history* of dyspareunia is basic to understand the current controversy on its "real" nature as either a sexual or a pain disorder. At onset, dyspareunia is a sexual disorder, as pain ("nociceptive") is usually triggered by coitus. Dyspareunia becomes increasingly a pain disorder ("neuropathic") when the chronicity of unaddressed etiological factors of tissue damage may locally up-regulate the immunitary and pain nervous system. The expression "sexual pain disorders" (or urogenital sexual pain disorders) encompasses the continuum and respects both the key features. Deleting the sexual component would mean missing a fundamental aspect for understanding both pathophysiology and meaning of dyspareunia.

Key word: dyspareunia; vulvar vestibulitis; sexual pain disorders; psychosexual factors; nociceptive pain; neuropathic pain

The thought-provoking and well argumented paper of Yitzchak M. Binik is challenging. (Binik, 1994). His proposal of re-conceptualizing the heterogeneous group of coital pains as "urogenital (sexual) pain disorders" would have been worth of attention for a nosographic change, had he not proposed to delete the key word "sexual".

Dyspareunia indicates the urogenital pain caused by intercourse. This is a specific, but not unique, triggering factor. Coital pain interferes with the intercourse, as Binik states, but it is caused by it as well. Urogenital pain, on the other hand, may be caused by many other etiologies. Dyspareunia is indeed a sexual dysfunction with a multifactorial and multisystemic etiology (Graziottin, 2001, 2003, Graziottin, Nicolosi & Caliari, 2001a). Predisposing, precipitating and maintaining factors, psychosexual and biological (muscular, endocrine, immunitary, neurologic, vascular, iatrogenic) may variably interact in the individual woman contributing to a continuum of symptoms of increasing severity and potential for impairment. The key pathophysiological factors involved in dyspareunia may change across time, when persistence of unaddressed causal factors upregulate the immunitary and pain system (Bohm-Starke, Hilliges, Blomgren, Falconer, Rylander 1999; Bohm-Starke, Hilliges, Falconer, Rylander 200; Graziottin & Brotto, 2004). This is why from the medical and pathophysiological point of view Binik's reasoning has some weaknesses, that stand against his proposal.

First, he does not consider the concept of *natural history* of dyspareunia. He assimilates different clinical situations, with no comment to the key parameter of *time* from onset of the symptom. Time is not simply a sterile chronological concept, but the influencing witness of the complex changes that pathophysiological factors undergo when a chronic tissue damage is in play. This change does not modify the category of the disorder (a cancer remains a cancer even if it is complicated by unbearable pain and does not become "a pain disorder" even if it requires specific multimodal anthalgic treatment). If we look at the natural history of a disease or a disorder like a movie, it's easy to understand that the moment of the clinical diagnosis is equivalent to picking up a shot in a movie. The protagonist(s) we will find in it can be very different according to the time from the onset of the story. Natural history of diseases makes no exception. Unfortunately, all Binik's

argument on dyspareunia just focuses on the final picture of a very specific cause of *introital* pain, eg Vulvar Vestibulitis (VV), dismissing the many others of superficial, mid-vaginal and deep dyspareunia. He stresses that VV and related vestibular pain may be present *before* the first intercourse. This is true but does not stand against dyspareunia being a sexual disorder. This simply means that in a life span perspective a chronic inflammation of the introital mucosa leading to neuropathic pain may be triggered from a very heterogeneous set of damaging factors. Urine leakage in enuretic children and adolescents may cause vulvar vestibulitis before the very first intercourse (Chiozza & Graziottin, 2004). Indeed, VV may be pre-existing, concomitant or consequent to intercourse, which may worsen the mucosal damage through the mechanical trauma it provokes when a dry mucosa in non aroused conditions and/or a tighten pelvic floor increase the introital vulnerability. Binik does not seem to consider (or at least does not mention in this paper) the key difference between "*nociceptive pain*", that is present at the beginning of dyspareunia's natural history (when etiology is other than a pre-existing VV), and "*neuropathic pain*", that may be present when months and years of repetitive mucosal damage have been in play, ie late in the natural history of this disorders (Baron, Levine & Fields, 1999; Baron, Schattssneider, Binder, Siebrect & Wasner 2002; Bonica, 1990, Vincenti & Graziottin, 2004). The former, the *nociceptive pain*, is indicative of an ongoing damage, eg coitus, from which the subject should try to withdraw to protect herself from further damage and pain: it is a *symptom* of very different etiologic factors that cause dyspareunia. The latter, the *neuropathic pain*, becomes indipendent from the initial predisposing and precipitating coital trauma or inflammatory event. It is generated within the pain system and becomes a *disease per se* (Graziottin & Brotto, 2004, Graziottin & Vincenti, 2002). At this point of the natural history, pain may become spontaneous or associated to non-coital events, like biking, having finger foreplay, wearing tight jeans or a tampon. This late change is typical of VV, to which most of the excellent Binik's and coworkers research is devoted (Bergeron, Binik, Khalifé & Pagidas 1997; Bergeron, Khalifé, Pagidas, Meana, Amsel, & Binik, 2001; Pukall, Strigo, Binik, Khalifé & Bushnell 2003; Meana, Bnik, Khalifé & Cohen, 1997). Indeed, after months or years of persisting inflammation and pain, the anatomical and

biochemical tissue picture may shift from a reactive situation to a microtraumatic event to a self-maintained chronic inflammation with an upregulated pain system.

However, this shift to neuropathic pain is not constant nor typical (dyspareunia caused by etiologies different from VV rarely has neuropathic characteristics). The shift may depend on the plasticity (neuroplasticity and psychoplasticity) of the pain system, on the persistence of damaging factors (inclusive of coitus without genital arousal on a vulnerable mucosa) and/or on the individual vulnerability of the immunitary and pain system themselves in a subset of women affected by VV. This may support the final inclusion of VV related pain in chronic pain disorders, whose features are in common with other chronic pelvic pains. *However, this neuropathic outcome cannot and should not be generalized to all types of dyspareunia.*

In particular, this generalization should be avoided when lifelong, introital dyspareunia may be caused by vaginismus, not severe enough to prevent penetration but sufficient to cause genital arousal disorder and coital pain. Without intercourse or other attempts of vaginal penetration (like the gynecological examination, which symbolically may mimic what is most feared of, ie intercourse), there is no pain. Opposite to previous researches, severe vaginismus has been recently shown to be characterized by abnormally increased basal tonic activity of the levator ani muscle associated with a lack or reduced ability to inhibit it with straining (Graziottin, Bottanelli and Bertolasi, 2004).

Opposite to what Binik says, dyspareunia *does* interfere with other dimensions of the sexual function: unwanted pain is the strongest reflex inhibitor of genital arousal, thus causing or contributing to vaginal dryness. This increases the vulnerability of the introital mucosa to coital mechanical trauma. It may cause as well secondary loss of sexual desire and central arousal, with further orgasmic difficulties. Indeed, in my series of patients suffering from dyspareunia caused by Vulvar Vestibulitis, 58.1% of patients reported acquired desire disorders, 50% acquired arousal disorders and 40,3% acquired coital orgasmic difficulties (Graziottin, Caliari & Nicolosi, 2001b).

Second, Binik uses interchangeably Vulvar Vestibulitis (VV) and dyspareunia. However, Vulvar Vestibulitis is a heterogeneous condition that is the leading *cause* of dyspareunia in the fertile age (Friedrich, 1987, Graziottin, 2001,2003a) but cannot be used as synonimous

of or assimilated to it. This is confusing and distorting the reasoning. All the arguments he uses in support of his thesis are based on researches on VV. Opposite, dyspareunia may be caused by factors very different from VV. For example, the majority of the dyspareunia cases of the postmenopause are associated to and co-morbid with genital arousal disorders, related to the hypoestrogenic condition. Very unusually they evolve towards a neuropathic pain, unless it was formerly present and reactivated by topical estrogenic treatment (Graziottin, 2003b,2003c).

Third, chronic VV – and not dyspareunia- may be considered a typical pain syndrome, like Interstitial Cystitis (IC), two conditions with an impressive sharing of pathophysiology (Tarr, Selo-Ojeme & Onwude, 2003). Among the key factors, the up-regulation of mastcells with production of nerve growth factors, which induces the proliferation of pain fibers; the neurogenically mediated inflammation backwards the sensory nerves; the recruitment of silent pain fibers, the "cross-talk" between nerves sharing the same tissue innervation in neighbour organ (like bladder and vestibule); the lowering of the central pain threshold (Tarr, Selo-Ojeme & Onwude, 2003). Last, but not least, the average diagnostic delay, up to 4.8 years for VV (Graziottin, Nicolosi e Caliari, 2001) and 4 to 7 years for IC.

Fourth, he assumes that different etiologies of either introital or deep coital pain argue against the appropriatness of using a common word like dyspareunia encompassing all of them. This objection sounds strange to a physician, who knows that any major symptom may be caused by and be related to very different etiologies (multifactorial) and involve different biological systems (multisystemic). The concept of *differential diagnosis* is there exactly to stress the need of looking at the potentially different pathophysiologies behind the common symptom that is only the emerging tip of the clinical iceberg. Dyspareunia makes no exception: the difficulty is having gynecologists trained to make an early and appropriate multisystemic and multifactorial differential diagnosis.

Fifth, the great risk of including dyspareunia in the chronic pain syndromes is that this will cause a further diagnostic omission of those early cases, when pain is only nociceptive, that would be easily treated if an appropriate etiologic diagnosis is made.

Sixth, he suggests that including dyspareunia in urogenital chronic pain disorders would ease the funding for the research. This is the weakest argument. No other condition has been

misplaced, with the impending risk of missing many patients who could benefit from an early differential diagnosis, only to find a better funding. VV *is* a urogenital pain syndrome. All Binik's argument is perfect for VV, not for dyspareunia per se.

What indeed should be stressed is the frequent urogenital sexual comorbidity, even in the earlier phases of dyspareunia. Latent class analysis of sexual dysfunctions by risk factors in women indicate that *urinary tract symptoms* have a RR = 4.02 (2.75-5.89) of being associated with arousal disorders and a RR=7.61 (4.06-14.26) of being associated with sexual pain disorders, according to the epidemiological survey of Laumann, Paik and Rosen, 1999. When patients are actively asked about urogenital co-morbidity, they report 38,7% of Lower urinary tract symptoms (LUTS), in my series of VV patients (Graziottin, Nicolosi, & Caliari, 2001a). Dyspareunia is reported in 44% of LUTS patients, in Salonia et Al cross sectional study (2004). On average 40% of patients report a shared pathophysiology, that unfortunately has been overlooked in most of the current literature and medical teaching, with a missed or delayed diagnosis leading to chronicity of pain and coital pain in a significant percentage of cases. *This* would support to broaden the category as "urogenital sexual pain disorders".

Instead of fighting for new classifications, we should urge physician and particularly gynecologist, who have naturally the clinical and semeiological background to detect the etiology of coital pain, to improve their diagnostic skill. Location of pain and its onset are the strongest predictors of its organicity (Meana, Binik, Khalifé, Cohen, 1997; Graziottin, Nicolosi & Caliari, 2001c) with the gynecological examination being able to elicit the same characteristics of pain in 90% of cases. A diagnostic possibility that would be missed by other physician with no gynecological training.

Seventh and last, to maintain that dyspareunia is a sexual pain disorder would stress the fact that relieving pain is half the treatment. The other half is to (re) gain the sexual pleasure. The expression "sexual pain disorders" (or "urogenital *sexual* pain disorders") inclusive of dyspareunia and vaginismus, encompasses the continuum and respects both the key features. Deleting the sexual component would mean missing a key aspect for understanding both pathophysiology and meaning of coital pain, thus further exposing

women to endless doctor-shopping to find a proper diagnosis and treatment. This is why I strongly object this proposal.

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