

Correspondence

Reply

To the Editor:

Calogiuri et al's¹ suggestion that protein contact dermatitis (PCD) may be a form of localized seminal plasma hypersensitivity (LSPH) helps to broaden the discussion regarding differential diagnosis and mechanism of action for suspected allergic vulvovaginal disorders. PCD is particularly prevalent in food handlers, veterinarians, and fishermen as a result of recurrent exposure to high-molecular-weight proteins from plant or animal sources and can affect many different regions of the body including the vulvovaginal region.² Although PCD and LSPH may share some common symptoms such as localized vaginal pain and irritation, they clinically manifest very differently.^{2,3} Patients with PCD experience vesicular, urticarial, or edematous papules and plaques within minutes after coming into contact with the causative allergen, whereas the clinical vaginal examination of women with LSPH typically reveals only mild erythema and swelling immediately after contact with seminal fluid and is frequently normal.^{2,3} In contrast to PCD, which requires recurrent exposure to high amounts of a causative protein to occur, the onset of symptoms experienced by women with LSPH occurs after first contact with seminal fluid in approximately 50% of the cases.^{3,4} Immunologically, skin prick testing to the causative agent for PCD similar to systemic SPH is positive, but for women with LSPH skin prick testing or serum specific IgE to whole seminal fluid or relevant seminal plasma proteins may be positive but often is equivocal or negative.^{2,3} Patch testing results for PCD are usually negative, and although earlier studies have suggested a role for T lymphocytes in LSPH, the therapeutic response to graded challenge to dilutions of whole seminal plasma or subcutaneously to relevant seminal plasma protein fractions makes delayed hypersensitivity mechanistically less likely.^{2,5-7} Finally, Calogiuri et al emphasize the importance of determining whether the male partner of women with LSPH consumed food to which their female partner could be sensitized. We agree with this recommendation and in fact our questionnaire surveys and subsequent clinical evaluation of women with systemic seminal plasma hypersensitivity (SPH) or LSPH routinely excludes PCD vulvovaginitis as an underlying cause.^{8,9} Historically, women with LSPH have reported no symptoms as a result of secondary transfer of food or drug allergens in their sexual partner's seminal fluid or due to molecular mimicry with other exogenous proteins (ie, dog PSA).⁹

Management of SPH involves avoidance of direct contact with seminal fluid through the use of condoms or treatment with either an intravaginal graded challenge using dilutions of whole seminal fluid, or subcutaneous desensitization to relevant fractionated seminal plasma proteins obtained from the woman's sexual partner.^{7,8} Both treatment approaches have been found to be successful in most cases, suggesting that immunomodulatory responses are involved. In contrast, treatment of PCD depends on the avoidance of the causative allergen and use of topical

corticosteroids to control the skin reactions.^{2,5} As Calogiuri et al indicate, several potential mechanisms may be involved in PCD but how recurrent exposure to plant/animal proteins, grains, or enzymes can cause PCD is still largely unknown.² Ghosh and Bernstein⁴ have presented compelling data supporting an IgE-mediated mechanism for systemic SPH but not for LSPH. For LSPH, it has been proposed that functionally active proteases present in seminal plasma, which are capable of activating protease receptors, might augment inflammation and pain experienced by these women.¹⁰⁻¹³ However, further studies are required to confirm this hypothesis and/or elucidate other immunologic mechanism(s) for LSPH. Meanwhile, as the scope of clinical practice in our specialty continues to expand, allergists will increasingly be called upon to consult on cases of systemic SPH or LSPH and vulvovaginal PCD and therefore should be prepared to evaluate and treat these conditions.

Jonathan A. Bernstein, MD
Debajyoti Ghosh, PhD

From the University of Cincinnati College of Medicine, Cincinnati, Ohio. E-mail: jonathan.bernstein@uc.edu.

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