

Allergies of the Genital Urinary Tract

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Allergies of the genital urinary tract (GU) is an often unrecognized and under diagnosed condition that can be the cause of considerable discomfort. More often than not symptoms are associated with an infection for which antibiotics are prescribed that ultimately have no effect. There are generally 3 areas of allergic reactions associated with the GU tract:

1. Contact dermatitis involving the penis and scrotum in men and labia, vagina and perineum in women.
2. The lower urinary tract involving the urethra and bladder in women and urethra, bladder and prostate in men.
3. The upper urinary tract, kidney and ureter.

Signs and symptoms include edema, swelling, inflammation and itching during an acute attack, often with no fever present. Swelling can be severe. There is often frequency, urgency, dysuria, nocturia, and a dull, suprapubic ache that accompany lower urinary tract allergic reactions. Often there is no fever or pyuria (white blood cells) present, but flank pain, gross hematuria (red blood cells) and occasional urinary retention may be present.

Frequent urination at night or bedwetting is one of the most commonly encountered conditions associated with food allergy, but patients with asthma, hay fever, migraine and urticaria (skin rash) are also frequently found. The worst-case scenario is interstitial cystitis whose symptoms are often severe and prolonged and appear as if the person has a bladder infection. Patients with interstitial cystitis are prescribed numerous courses of antibiotics which do not clear the symptoms. Eventually this can result in bladder changes that can become permanent and debilitating.

Exposure of the urinary tract to potential allergens occurs throughout its entire length during the course of blood filtration and urine excretion. Our kidneys have evolved certain defensive functions against allowing allergens into the lower urinary tract and efferent tracts in the kidney itself. This protective barrier is accomplished by having a large surface area mucosa that secretes mucus which filters urine and protects against potential allergens. The mucus secreted is comprised of glycoproteins, which contain sialic acid residues that possess electrical charge to accomplish this purpose. Tamm-Horsfall mucoprotein, a component of urinary casts, is secreted specifically by the collecting ducts and acts as a protective substance against ascending or descending urinary tract insults. The protective barriers effectiveness depends upon a variety of factors such as patient nutritional status, frequency of exposure, and secretor status.

Serum immunoglobulins are found in urine and help to protect against bacterial, fungal and mycoplasma infection. Immunoglobulin IgA is secreted by the urinary tract mucosa in response to a microorganism infection while IgE is secreted in response to an allergen exposure. Antibody coated bacteria can be measured to assess immune response.

Allergic reactions in the GU tract are found to be in direct proportion to the frequency, duration and amount of exposure. Initial reactions produce a minimal response provided reaction-thresholds were not exceeded. However, if the level of exposure is great enough, then a reaction-on-top-of-reaction sequence is produced contributing to both symptom severity and pathological changes. If prolonged, or frequent in occurrence, pathological changes can become permanent as in interstitial cystitis, or chronic urethritis and prostatitis. Other factors such as secretor status and blood type also play a role in development of allergic reactions.

Allergic reactions of the GU tract can be caused by: inhalants, drugs, foods, bacteria, viruses, rickettsia, xenobiotics and lectins. Foods and drugs cause the greater number of reactions which can be primary [direct] or secondary [passed through the urine during elimination]. Increases in episodes of urinary tract allergy presentations have been correlated with holidays such as Christmas, Thanksgiving and Easter.

Some of the more common allergens that have been found are:

1. Inhalants - dust, smoke, feathers, animal hair, dander, pollens, dyes.
2. Drugs - antibiotics, sulfonamides, hypnotics, antihistamines, Salvasarin, salicylates, para-aminosalicylic acid (PAS), Butazolidine, quinine derivatives, codeine, arsenic, ephedrine, isoniazid (INH), digitalis, Nirvanol, Pyramidone, mercury compounds, gold, insulin, contract media, disinfectants.
3. Bacteria and parasites - almost all bacteria to some extent, Candida, Mycobacterium tuberculosis, helminthes, oxyuris, Plasmodium falciparum, serums and vaccines from immunizations.
4. Foods - milk, cheese, eggs, meat, white flour, fish/shellfish, lobster, mushroom, fruits, lettuce, asparagus, carrot, tomato, cucumber, chocolate onion, lemon, melon - various, yeast, paprika, black pepper, alcohol.
5. Contact allergens - rubber, contraceptives, and injectable materials.

The GU tract is not only the site of allergic reactions but under certain circumstances is also the site of formation and absorption of allergens. In cases of a reaction to drug therapy where the body secretes excessive mucus, the resultant compound of mucus and drug can elicit an immune system reaction, where as the individual compounds will not.

There are a number of treatments for GU tract allergies that are safe and effective. The most difficult part however, is recognizing that they exist in the first place, a condition that often is over looked by physicians.

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