



Clinical Allergy Tips

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Editors Note: Dr. Mandel Sher of Saint Petersburg, Florida submits a case that, although we frequently think about, is almost never seen in our clinics. This vignette supports the fact that careful history taking always has great value especially when the hoof beats of a “runny nose” are actually those of a zebra.



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The case of the wet pillow

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A forty five year old woman presented for a follow up visit for her perennial (dust mite allergy) and seasonal (oak tree pollen) allergic rhinitis. Over the previous three weeks, she experienced an increase in severity of itchy, watery eyes, sneezing, a profuse watery rhinorrhea and nasal congestion. These symptoms correlated with regional high oak tree pollen counts. During the past week, she noted that each morning upon awakening her pillow was unusually damp. Her baseline rhinitis treatment included a nasal steroid, olapatodine eye drops as well as cetirizine tablets.

She was started on oral prednisone at thirty milligrams every morning for a week, in addition to her usual regimen. The patient returned a week later and stated that all of her symptoms had greatly improved except for the watery rhinorrhea and the morning wet pillow. She denied anosmia, headaches, visual changes or vertigo. There was no history of sinus surgery. She denied recent travel as well as trauma. Physical exam was unrevealing including eye grounds, except it was noted that the patient had an increase of her rhinorrhea when asked to bend forward.

With a high suspicion for cerebrospinal fluid (CSF) rhinorrhea, the watery nasal discharge was collected. A beta-2 transferrin test of nasal secretions was requested from the laboratory and the result was positive. The patient at that point was referred to an otolaryngologist for further evaluation and management.

CSF rhinorrhea is a result of a skull base defect allowing for communication between the sub-arachnoid space and the sino/nasal mucosa. The CSF is generated from the low pressure system resulting in intermittent duration and low quantity of flow. Etiology of CSF leaks include head trauma, tumors, sinus

surgery, and increased intracranial pressure (ICP), such as excessive nose blowing documented in this patient. CSF rhinorrhea also can be idiopathic.

CSF rhinorrhea tends to be unilateral, intermittent, positional and associated with secretions with a salty taste. Anosmia is associated with cribriform plate defects. With an increase of ICP, headaches, if present, may actually resolve despite the active CSF rhinorrhea. Papilledema can sometimes be observed along with an abducens nerve palsy.

Glucose oxidase strip testing may be falsely positive due to admixed tears or nasal mucous which can have reducing substances. A false negative can occur with bacterial meningitis. Beta-2 transferrin is more sensitive and specific requiring an adequate sampling of the CSF. Prompt transport to the laboratory is required.

Referral to an otolaryngologist will result in a further workup including a CT scan of bony architecture and location of possible defect and MR imaging looking for soft tissue involvement such as meningoencephaloceles. Conservative therapy includes bed rest, upright position, stool softeners and lumbar puncture subarachnoid drainage. There are several surgical approaches for identified defects.

Reference:

Citardi, Martin. Chapter 55. CSF Rhinorrhea, in **Cummings – Otolaryngology: Head & Neck Surgery, 4th Edition**, 2005, Mosby.