



ASPIRIN DESENSITIZATION

INTRODUCTION

Aspirin desensitization therapy is a treatment option for Aspirin Exacerbated Respiratory Disease (AERD). The disease requires having a diagnosis of three specific conditions. It is therefore commonly referred to as “Samter’s Triad.” (See Sinusitis and Asthma) The triad consists of nasal polyps, asthma, and a sensitivity to aspirin/aspirin containing medications or non-steroidal anti-inflammatory drugs (NSAIDs). Examples of NSAIDs include ibuprofen and naproxen, amongst others. Symptoms of AERD include nasal congestion, decreased smell, facial pressure, discolored nasal drainage, and wheezing or shortness of breath. Both asthma and nasal polyps are worsened by use of aspirin or NSAIDs in AERD. These medications should therefore be avoided.

BACKGROUND

The cause of AERD is unknown. It is felt to be either inherited or acquired later in life as a result of immune system changes. It is an uncommon condition that is challenging to treat. AERD affects less than 1% of the population. It is more common in women and tends to be diagnosed in the 3rd decade of life. AERD affects approximately 9% of patients with asthma alone, 15% of patients with nasal polyps alone, and 30% of patients with both asthma and nasal polyps. AERD is the result of an increased production of inflammatory molecules within the body. Use of aspirin or NSAIDs increases the production of these inflammatory molecules.

DIAGNOSIS

The diagnosis of nasal polyps requires an examination of the inside of the nose with a telescope (See Nasal Endoscopy). The diagnosis of asthma is typically made by an allergist or pulmonologist and may require specialized lung function tests. If AERD is suspected, but there is no prior history of reaction to aspirin or NSAIDs, a provocation test can be done. Provocation is performed in a controlled setting. The patient is given a small dose of the medication and its impact is assessed. If the patient has all three components of AERD then the diagnosis is made.

TREATMENT

Many patients with AERD will require sinus surgery to remove the nasal polyps and open the sinuses (See Endoscopic Sinus Surgery). After sinus surgery, many patients will also benefit from aspirin desensitization therapy. Desensitization is typically performed by an allergist or immunologist. The idea is that by exposing a patient to very high doses of aspirin they will become desensitized to its effects and decrease the production of the inflammatory molecules that cause AERD. For reference a “baby aspirin” is a 81 milligram (mg) tablet and a regular aspirin tablet is 325 mg. The daily desensitization dose of aspirin is typically around 1300

mg/day. The dose is then tapered down to a maintenance dose of around 325 mg/day. Long-term aspirin use is necessary following desensitization. Side effects of aspirin use include an increased risk of bleeding and tinnitus (ringing in the ears). New therapies called monoclonal antibodies (See Biologics) selectively block some of the inflammatory molecules that cause the disease. Monoclonal antibodies are available for treatment of asthma in AERD patients. As these therapies are new, more time is needed to determine how effective they are in minimizing the symptoms of AERD.

SUMMARY

Treatment for AERD may involve sinus surgery, steroid inhalers for asthma, and aspirin desensitization. Monoclonal antibody therapies may decrease the need for some of these treatments in the future.

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