Studies examine effectiveness of nasal sprays in reducing frequency, duration of HHT-related epistaxis

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Two studies appearing in the September 6 issue of *JAMA* examine the effectiveness of nasal sprays to reduce the frequency and duration of nosebleeds caused by hereditary hemorrhagic telangiectasia (HHT), an inherited condition characterized by abnormal blood vessels which are delicate and prone to bleeding.

Epistaxis (nosebleed) are the most frequent and disabling manifestation of HHT. These epistaxis episodes can be severe and life threatening. There is currently no medical or surgical treatment available to cure the nosebleeds definitively. Sophie Dupuis-Girod, M.D., Ph.D., of the Hopital Femme-Mere-Enfants, Bron, France and colleagues evaluated the efficacy of 3 different doses of the drug bevacizumab administered as a nasal spray. Bevacizumab is a monoclonal antibody that slows the growth of new bloods vessels. In this phase 2/3 clinical trial, 80 patients with HHT and a history of nosebleeds were randomly assigned to received placebo or one of three doses of bevacizumab nasal spray (3 doses 14 days apart for a total treatment duration of 4 weeks).

The researchers found that average monthly epistaxis duration measured at 3 months was not significantly different in the patients receiving bevacizumab in comparison with the placebo group or between the bevacizumab groups. Toxicity was low and no severe adverse events were reported. Treatment with bevacizumab had no measurable effect on secondary outcomes including number of epistaxis episodes, quality of life, number of red blood cell transfusions, or hemoglobin and ferritin levels.

The study was terminated prior to phase 3 for treatment futility after interim analysis on the recommendations of an independent data monitoring committee.

In another study, Kevin J. Whitehead, M.D., of the University of Utah, Salt Lake City, and colleagues examined whether therapy with any of 3 drugs would be effective in reducing HHT-related epistaxis.

Based on published data and anecdotal experience, 3 agents with theoretically differing mechanisms of action were selected: bevacizumab, estriol, or tranexamic acid. The study included 121 patients with HHT who had experienced HHT-related epistaxis. Patients were randomly assigned to receive twice-daily nose sprays for 12 weeks with either of the agents or placebo.

The researchers found that drug therapy did not significantly reduce epistaxis frequency. After 12 weeks of treatment, the median weekly number of bleeding episodes was 7 for patients in the bevacizumab group, 8 for the estriol group, 7.5 for the tranexamic acid group, and 8 for the placebo group. No drug treatment was significantly different from placebo for epistaxis duration. There were no significant differences between groups for hemoglobin level, ferritin level, treatment failure, need for transfusion, or emergency department visits.

No serious adverse effects were seen in the study.

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