Medical Xpress

AAAAI: Nasal delivery of epinephrine safe, effective for anaphylaxis

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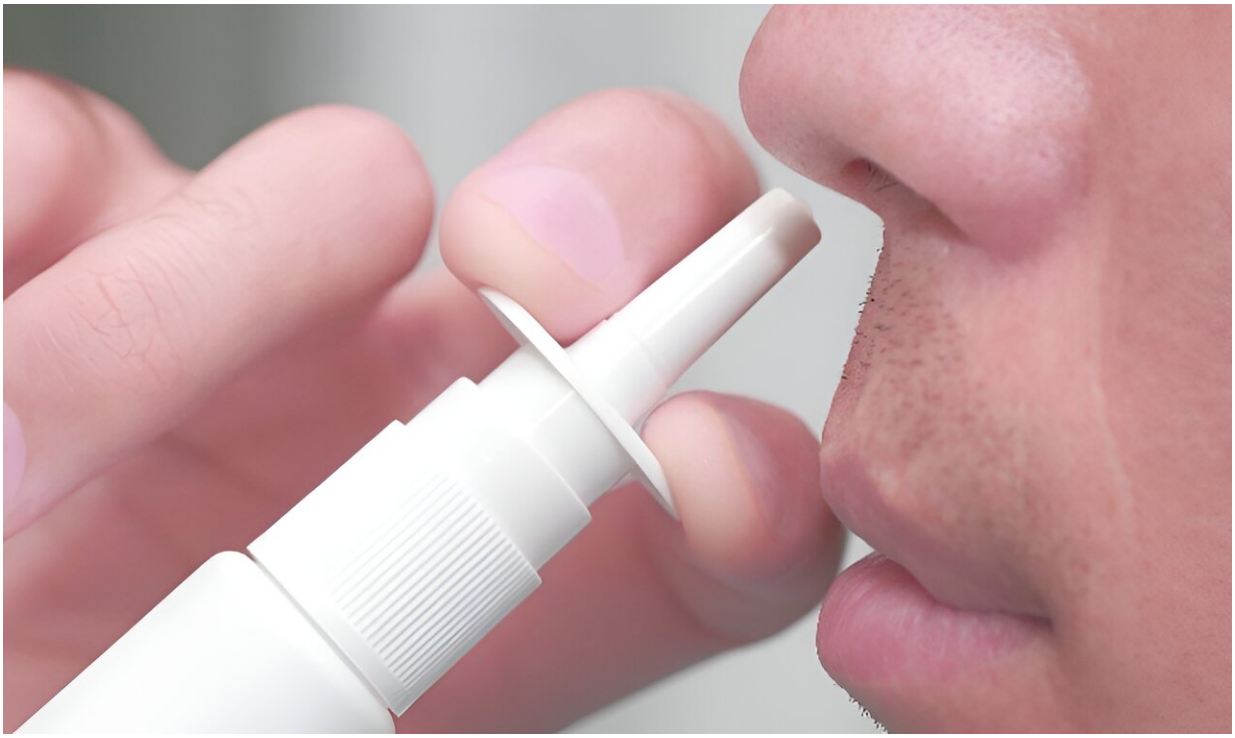

Nasal powder formulations of epinephrine are effective and show superior stability to EpiPens, according to a study presented at the annual meeting of the American Academy of Allergy, Asthma & Immunology, held from Feb. 23 to 26 in Washington, D.C.

Martin Jönsson, from Orexo AB in Uppsala, Sweden, and colleagues evaluated the stability of proprietary amorphous powder formulations under accelerated conditions (40 degrees Celsius; 75 percent relative humidity) versus an approved autoinjector (EpiPen 0.3 mg). Additionally, in a crossover study in 40 healthy volunteers, bioavailability and hemodynamic response of four 1-mg powder formulations were compared to EpiPen 0.3 mg.

The researchers found that preservative-free powder formulations were stable under accelerated conditions, with ≤0.65 percent total degradation over 12 months (compared with 31.5 percent for EpiPen). Rapid absorption of epinephrine was reached within about five to 10 minutes, as measured by plasma levels, which were comparable between powder formulations and EpiPen. Compared with EpiPen, peak and early exposures were comparable, while total exposure was about 30 to 60 percent higher for the nasal powder formulations. Hemodynamic effect onset (blood pressure and heart rate) was comparable with that of EpiPen, with a somewhat higher increase observed in blood pressure.

"The nasal amorphous powder technology we have developed provides both effective absorption and excellent stability that may benefit patients, ensuring that the drug is not degraded when carried and is still effective when needed," Jönsson said in a statement.

More information: Press Release
More Information

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