

# Growth-factor gel shows promise as hearing-loss treatment

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A new treatment has been developed for sudden sensorineural hearing loss (SSHL), a condition that causes deafness in 40,000 Americans each year, usually in early middle-age. Researchers writing in the open access journal *BMC Medicine* describe the positive results of a preliminary trial of insulin-like growth factor 1 (IGF1), applied as a topical gel.

Takayuki Nakagawa, from Kyoto University, Japan, worked with a team of researchers to test the [gel](#) in 25 patients whose SSHL had not responded to the normal treatment of systemic glucocorticosteroids. He said, "The results indicated that the topical IGF1 application using gelatin hydrogels was safe, and had equivalent or superior efficiency to the hyperbaric oxygen therapy that was used as a historical control; this suggests that the efficacy of topical IGF1 application should be further evaluated using randomized [clinical trials](#)".

At 12 weeks after the test [treatment](#), 48% of patients showed hearing improvement, and the proportion increased to 56% at 24 weeks. No serious adverse events were observed. This is the first time that [growth factors](#) have been tested as a hearing remedy. According to Nakagawa, "Although systemic glucocorticoid application results in hearing recovery in some patients with SSHL, approximately 20% show no recovery. Topical IGF1 application using gelatin hydrogels is well tolerated and may be efficacious for these patients".

**More information:** A Topical insulin-like growth factor 1 treatment using gelatin hydrogels for glucocorticoid-resistant sudden sensorineural

hearing loss: a prospective clinical trial, Takayuki Nakagawa, Tatsunori Sakamoto, Harukazu Hiraumi, Yayoi S Kikkawa, Norio Yamamoto, Kiyomi Hamaguchi, Kazuya Ono, Masaya Yamamoto, Yasuhiko Tabata, Satoshi Teramukai, Shiro Tanaka, Harue Tada, Rie Onodera, Atsushi Yonezawa, Ken-ichi Inui and Juichi Ito, *BMC Medicine* (in press), [www.biomedcentral.com/bmcmed/](http://www.biomedcentral.com/bmcmed/)

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