Olfactory bulb size may change as sense of smell changes

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The olfactory bulb in the brain appears to change in size in a way that corresponds to individual alterations in sense of smell, according to a report in the June issue of *Archives of Otolaryngology–Head & Neck Surgery.*

The size of the olfactory bulb has been studied in patients who have lost their sense of smell due to injury, infection, congenital conditions or neurodegenerative diseases, as well as in those with a normal sense of smell, according to background information in the article. Research indicates that the size of the olfactory bulb changes throughout adult life.

Antje Haehner, M.D., and colleagues at University of Dresden Medical School, Germany, studied 20 patients with loss of sense of smell, or "olfactory loss." Once between 2003 and 2004 and again 13 to 19 months later, patients underwent an assessment that included magnetic resonance imaging (MRI) of the brain and nasal endoscopy, an examination of the nose with a lighted, flexible instrument known as an endoscope. Their olfactory function was tested using a kit that measures individuals' threshold of detecting odors, ability to discriminate between odors and identification of particular odors.

At the first assessment, seven of the 20 patients had no sense of smell (anosmia) and 13 had a reduced sense of smell (hyposmia), while at the second assessment six had anosmia and 14 had hyposmia. In patients who initially had hyposmia, the volume of the olfactory bulb increased as olfactory function increased. However, no correlation was found

between the volume of the olfactory bulb and the ability to distinguish between or identify specific odors.

Source: JAMA and Archives Journals

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