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Absence of Olfactory Bulbsin A Patient With Congenital Anosmia

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ABSTRACT

We present a patient with congenital anosmia.The coronal T2-weighted magnetic resonance imaging (MRI) showed absence of the olfactory bulbs on both sides.We propose that conventional MRI may alert the clinician to the possibility of a congenital olfactory dysfunction.

INTRODUCTION

The common causes of olfactory dysfunction include allergic rhinitis, chronic rhinosinusitis, and upper respiratory infections.[1] Other potential causes include head trauma, neurodegenerative diseases, medications, and congenital anosmia.[1] We present a patient with congenital anosmia.

CASE PRESENTATION

An 18-year-old man was referred to Jichi Medical University Hospital with an olfactory complaint. He was unable to experience a sense of smell since birth. He did not have any other relevant medical history. The findings of systemic examination were normal. Examination by T&T olfactogram revealed total anosmia.

Otolaryngological endoscopic examination was unremarkable in both nasal cavities. The coronal T2-weighted magnetic resonance imaging (MRI) showed absence of the olfactory bulbs on both sides (Figure 1A arrows). In contrast, apparent normal olfactory sulci were detected (Figure 1B arrows).

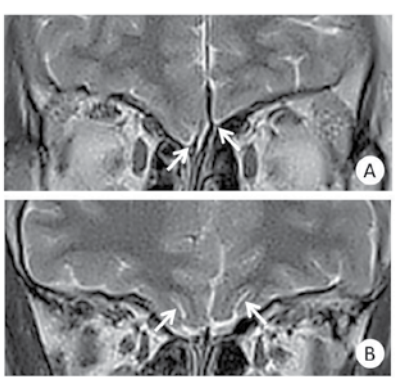

Figure 1: Coronal T2-weighted MRI

DISCUSSION

Congenital loss of smell can be classified into following two groups: Group 1 comprises about 12% of patients, which commonly exhibit familial loss of smell associated with congenital abnormalities, including hypogonadotropic hypogonadism as well as genetic, somatic, and neurologic abnormalities; Group 2 comprises the majority (88%) of patients with a congenital loss of smell. [2] Group 2 patients show the same degree of loss of smell as Group 1 patients; however, they generally lack a familial association, have normal gonadal function, and do not exhibit other somatic abnormalities.[2]

Recently, several reports have been published concerning the possibility of diagnosing morphological abnormalities of the olfactory bulbs, tracts, and sulci by using MRI to examine congenital anosmia patients.[2-5] Our patient showed absence of the olfactory bulbs. We propose that conventional MRI may alert the clinician to the possibility of a congenital olfactory dysfunction.

CONCLUSIONS

Although this patient presents isolated anosmia, we recommend that appropriate consultation should be offered to those who have hypogonadotropic hypogonadism in order to consider hormone replacement therapy in patients of a fertile age.

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