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Case Report

Bilateral maxillary sinus aplasia

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Abstract

Bilateral maxillary sinus aplasia is an extremely rare congenital anomaly. Only a few cases have been reported in the literature. We present a 24- year-old woman with bilateral maxillary sinus aplasia associated with the bilateral absence of the uncinate process and infundibular passage on CT images.

KEY WORDS: Maxillary sinus, aplasia, computed tomography.

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A 24-year-old female presented to our hospital with rhinorrhea for 5 weeks regardless of the fact she has been using various antihistaminic agents, and even antibiotics. Routine otorhinolaryngologic examination revealed hypertrophy of bilateral inferior conchae and a pale watery nasal mucosa. Neurological examination was found to be normal. Due to history and physical examination, she was diagnosed as having allergic rhinitis. However, the patient was responsive to loratadine and beconase spray, but after 2 months, the patient returned with the same complaints, plus a moderate frontal headache. To confirm the diagnosis, coronal CT examination was performed with 5 mm slice thickness. CT showed absence of the maxillary antra, uncinate processes and maxillary infundibula on both sides (figure 1). To confirm the preliminary diagnosis of bilateral maxillary sinus aplasia, examination was repeated with a 2 mm slice thickness with a bone window.

Discussion

During the third month of fetal life, the uncinate process projects medially from the ethmoid bone forming a groove between it and the lateral nasal wall named infundibulum [1]. This is the site of the maxillary sinus cell or bud. The cell enlarges over time and the maxillary sinus becomes radiographically evident by 4 to 5 months. By the age of 12, pneumatization extends to the orbital wall laterally and to the level of the nasal cavity inferiorly. The infundibular passage, which is the communication between the maxillary sinus and middle meatus, is seen as an air channel between the uncinate process and the inferomedial border of the orbit. Bolger, et al classified the structural alterations of the uncinate process and maxillary infundibulum in patients with maxillary sinus hypoplasia as follows: as hypoplasia becomes more pronounced, the uncinate process becomes more hypoplastic and the infundibular passage is more ill-defined [2]. The

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uncinate processes and infundibular passages were absent in our case, supporting the fact that our patient has maxillary sinus aplasia. Maxillary sinus aplasia is an extremely rare congenital anomaly. Only a few cases have been reported in English literature [1-5]. Although maxillary hypoplasia is relatively common, we had to rule out a severely hypoplastic sinus cavity and a rudimentary infundibular passage into the nasal cavity with thin slices [4]. They were not evident in our case. Since the pneumatization of the maxillary sinus occurs between 6-12 years of age, aplasia of this sinus in a 24-years-old woman is quite rare.

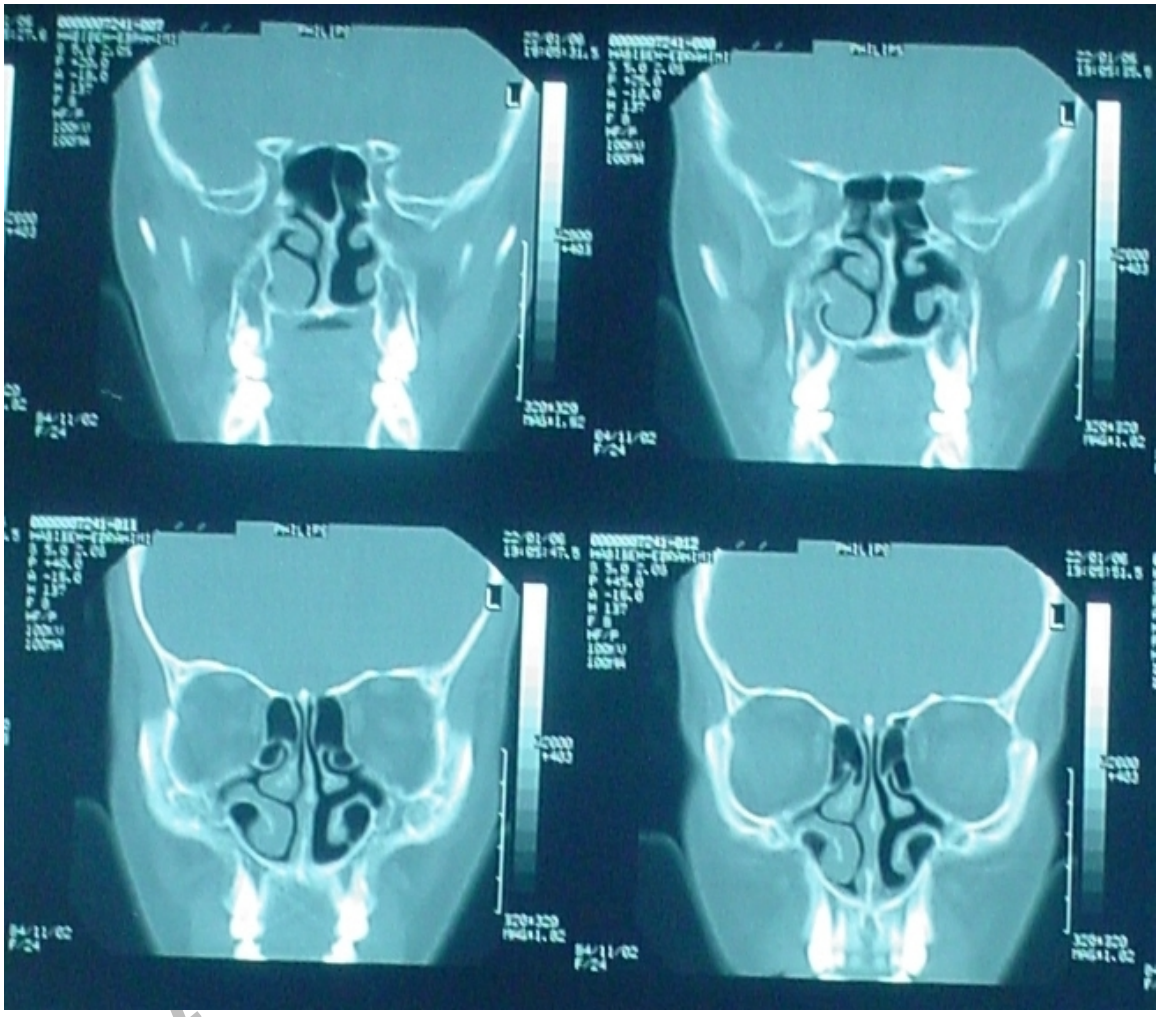

Figure 1.

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