

Documents

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Ostiomeatal complex inflammation with a rare ethmoid sinolith utilizing cone-beam computed tomography: A clinical and radiological approach to diagnosis

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Abstract

A 28-year-old female patient was referred for panoramic radiography during a regular dental check-up. The dentist pointed out an additional suspicion of odontogenic maxillary sinusitis as she had complained of nasal obstruction, nasal discharge, postnasal drip, and frontal headache at the time. In this present case, cone-beam computed tomography (CBCT) imaging modality was utilized to evaluate the paranasal sinuses and detect any pathologic signs. This study aims to highlight the potential value of the modality for the identification of paranasal sinus diseases by presenting a rare finding of an ethmoid sinolith associated with a persistent ostiomeatal complex inflammation. The insufficient data currently available on the incidence of ethmoid sinoliths emphasize the significance of reports intended to inform practitioners about the imaging properties of these calcifications. To the author's knowledge, this is the first case report that demonstrated the primary utilization of dental CBCT in detecting ethmoid sinolith in a straightforward manner. © 2023

Author Keywords

Cone-beam computed tomography; Ethmoid sinus; Medicine; Paranasal sinuses diseases; Pathologic calcification

Index Keywords

antibiotic agent, decongestive agent, nose spray, sodium chloride; adult, allergic rhinitis, anatomical concepts, Article, asymptomatic disease, calcification, calcinosis, case report, clinical article, clinical assessment, clinical evaluation, clinical feature, cold, comparative study, cone beam computed tomography, data base, dental caries, dental prevention, dental restoration, dentition, disease association, ethmoid bone, ethmoid sinolith, ethmoid sinus, female, follow up, headache, human, incidence, inflammation, influenza, maxilla, maxilla sinusitis, maxillary sinus, medical history, nasal discharge, nasal endoscopy, nose obstruction, ostiomeatal complex inflammation, panoramic radiography, paranasal sinus, paranasal sinus disease, patient referral, postnasal drip, radiology, radiology department, sinusitis, time to treatment

Chemicals/CAS

sodium chloride, 7647-14-5, 23724-87-0, 49658-21-1

Tradenames

OP300 Maxio, instrumentarium dental

Manufacturers

instrumentarium dental

References

- da Costa, E.D., Verner, F.S., Peyneau, P.D., de Freitas, D.Q., de Almeida, S.M.
Diagnosis of ethmoid sinolith by cone-beam computed tomography: case report and literature review
(2019) *Oral Radiol*, 35 (1), pp. 68-72.
- Almaši, M., Andrašovská, M., Koval, J.
Sinolith in the ethmoid sinus: report of two cases and review of the literature
(2010) *Eur Arch Oto-Rhino-Laryngol*, 267 (10), pp. 1649-1652.
- Nayak, D.R., Bhandarkar, A.M., Valiathan, M., Sandeep, V.V.K.
Incidental "ethmoid sinolith" - an unusual cause of frontal recess obstruction
(2014) *BMJ Case Rep*, 2014, pp. 1-4.

- Hodez, C., Griffaton-Taillandier, C., Bensimon, I.
Cone-beam imaging: applications in ENT
(2011) *Eur Ann Otorhinolaryngol Head Neck Dis*, 128 (2), pp. 65-78.
- Kirsch, C.F.E., Bykowski, J., Aulino, J.M., Berger, K.L., Choudhri, A.F., Conley, D.B.
ACR Appropriateness Criteria® sinonasal disease
(2017) *J Am Coll Radiol*, 14 (11), pp. S550-S559.
- Demeslay, J., Vergez, S., Serrano, E., Chaynes, P., Cantet, P., Chaput, B.
Morphological concordance between CBCT and MDCT: a paranasal sinus-imaging anatomical study
(2016) *Surg Radiol Anat*, 38 (1), pp. 71-78.
- Momeni, A.K., Roberts, C.C., Chew, F.S.
Imaging of chronic and exotic sinonasal disease: Review
(2007) *Am J Roentgenol*, 189 (6), pp. 35-45.
- Riley, D.S., Barber, M.S., Kienle, G.S., Aronson, J.K., von Schoen-Angerer, T., Tugwell, P.
CARE guidelines for case reports: explanation and elaboration document
(2017) *J Clin Epidemiol*, 89, pp. 218-235.
- Fakhran, S., Alhilali, L., Sreedher, G., Dohatcu, A.C., Lee, S., Ferguson, B.
Comparison of simulated cone beam computed tomography to conventional helical computed tomography for imaging of rhinosinusitis
(2014) *Laryngoscope*, 124 (9), pp. 2002-2006.
- Al Abduwani, J., Zilinskiene, L., Colley, S., Ahmed, S.
Cone beam CT paranasal sinuses versus standard multidetector and low dose multidetector CT studies
(2016) *Am J Otolaryngol - Head Neck Med Surg*, 37 (1), pp. 59-64.
- Lata, S., Mohanty, S.K., Vinay, S., Das, A.C., Das, S., Choudhury, P.
Is cone beam computed tomography (CBCT) a potential imaging tool in ENT Practice?: a cross-sectional survey among ENT surgeons in the state of Odisha, India
(2018) *Indian J Otolaryngol Head Neck Surg*, 70 (1), pp. 130-136.
- Kanzaki, S., Sakamoto, M.
Sinolith in the ethmoid sinus
(2006) *J Laryngol Otol*, 120 (2), pp. 1-3.
- Sava, C.J., Rusu, M.C.
Bilateral sinoliths in the ethmoid sinus – a rare cone beam CT finding
(2017) *Rom J Rhinol*, 7 (25), pp. 57-59.
- Sava, C.J., Sandulescu, M., Constantin, R.M.
Sphenoidal and ethmoidal sinoliths
(2017) *Rom J Rhinol*, 7 (28), pp. 257-259.
- Manning, N., Wu, P., Preis, J., Ojeda-Martinez, H., Chan, M.
Chronic sinusitis-associated antrolith
(2018) *IDCases*, 14, p. e00467.
- Özcan, C., Vayisoğlu, Y., Görür, K.
Sinolith: a rare isolated sphenoid sinus lesion
(2013) *J Craniofac Surg*, 24 (2), pp. 104-106.
- Cho, B.H., Jung, Y.H., Hwang, J.J.
Maxillary antroliths detected by cone-beam computed tomography in an adult dental population
(2019) *Imaging Sci Dent*, 49 (1), pp. 59-63.

- Diaconu, E.
Clinical and imagistic correlations in the inflammatory pathology of nasosinusal cavities
(2018) *Rom J Rhinol*, 8 (29), pp. 27-31.
- Harar, R.P.S., Chadha, N.K., Rogers, G.
Are maxillary mucosal cysts a manifestation of inflammatory sinus disease?
(2007) *J Laryngol Otol*, 121 (8), pp. 751-754.
- Han, M., Kim, H.J., Choi, J.W., Park, D.Y., Han, J.G.
Diagnostic usefulness of cone-beam computed tomography versus multi-detector computed tomography for sinonasal structure evaluation
(2022) *Laryngoscope Investig Otolaryngol*, 7 (3), pp. 662-670.
- Berezowski, B.M., Phillips, V.M., Luckey, H.
Osteoma or antrolith of the maxillary sinus: a case report and review of the literature
(2021) *Oralchirurgie J*, 3, pp. 6-11.

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