AUTO-EROSION OF THE UNCINATE PROCESS AND MEDIAL MAXILLARY WALL IN CHILDREN WITH CYSTIC FIBROSIS

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ABSTRACT

Objective: To report a phenomenon of auto-erosion of the uncinate process and medial maxillary wall in children with cystic fibrosis.

Background: Previous reports have identified various computed tomography findings in children with cystic fibrosis that affect the bony structure including expansion of the maxillary sinuses, demineralization of the thin sinus bone, and frontal sinus agenesis.

Design: Retrospective chart review with IRB approval.

Setting: Tertiary care children’s medical center.

Patients: Children evaluated from 1995 to 2010 with cystic fibrosis and chronic sinonasal symptoms were noted to have auto-erosion of the uncinate process on endoscopic and radiographic evaluations.

Main outcome measures: Presence of auto-erosion of the uncinate process and medial maxillary wall.

Results: Sixty-two (10%) children evaluated from 1995 to 2010 with cystic fibrosis and sinonasal symptoms were noted to have auto-erosion of the uncinate process on endoscopic and radiographic evaluations.

Methods and Materials:

After IRB approval, children’s medical records were reviewed for the presence of auto-erosion of the uncinate process and medial maxillary wall. Children were evaluated for the presence of auto-erosion of the uncinate process and medial maxillary wall. The study attempts to define that finding and potential benefits or consequences.

Results:

Six of 62 children (10%) reviewed had auto-erosion of the uncinate process and/or medial maxillary wall. The six children ranged in age from 3 to 15 years on presentation. Three of the six, ages 3, 8, and 13 years, had sinonasal symptoms for only 3 months. The younger 2 children had severe bulging of both medial maxillary walls on CT scan (Figure 1) and the older 13 year old child had bulging of one side (Figure 3a,b). All had polyps emanating through or seen through the erosions (Figure 2a, 3a, 3b). All received surgical intervention after being diagnosed with auto-erosion for their sinonasal symptoms and improved.

The other three children, ages 11, 14, and 16, had fluctuating sinonasal symptoms for years. CT scans and endoscopies revealed auto-erosion of only one child receiving surgery, the 11 year old (Figure 4). The older children, ages 14 and 16, had relatively few sinonasal complaints before seen and were referred originally for evaluation of the impact of sinus disease on their pulmonary system.

Discussion:

Auto-erosion of the uncinate process and medical maxillary wall can be seen in children with cystic fibrosis. This most likely occurs from demineralization and erosion of the bony secondary to chronic pressure from the expanded contents of the sinuses, especially the maxillary sinus. This auto-erosion could result in a self-venting phenomena and help relieve their sinonasal symptoms.

Conclusions:

Auto-erosion of the uncinate process and medial maxillary wall in children with cystic fibrosis may be a significant finding on computed tomography scans and could be helpful in management planning.

References:


