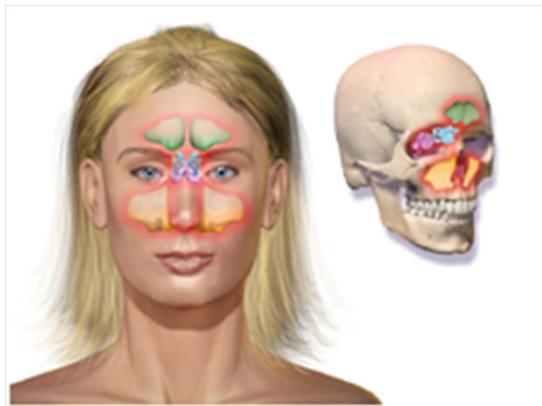


# OPD case of chronic pansinusitis of e. coli in ongoing case of chronic allergic rhinitis and sinusitis

**Keywords:** sinusitis, chronic sinusitis, e.coli sinusitis, nasal polyps, gerd, cough, asthma, vitamin, azelastine, monteleokast

## Introduction

Sinusitis, also known as a sinus infection or rhinosinusitis, is inflammation of the sinuses resulting in symptoms. It can be due to infection, allergies, air pollution, or structural problems in the nose.



Gram negative infections have been on the rise for the past three decades, and nosocomial sinusitis due to *E. coli*, *K. pneumoniae*, *P. aeruginosa* and *Enterobacter* species are well described in literature. In most instances infections follow manipulation of the urinary, respiratory or gastrointestinal tracts. In the case of nosocomial sinusitis it usually occurs with nasal intubation or nasogastric tubing.

Reflux (GERD) can affect chronic rhinosinusitis, but GERD has several extra-esophageal manifestations. These include; asthma, chronic cough and laryngeal disorders along with CRS. In many instances classic symptoms of GERD are absent and the diagnosis is not considered. Also in many of these, treatment of the extra-esophageal manifestations of GERD is less predictable than typical GERD.

Some people with chronic rhinosinusitis have abnormal growths inside their noses or sinuses called nasal polyps. The polyps can become large and numerous enough to clog the sinuses, causing symptoms. Scientists do not fully understand why some people form nasal polyps. Treatment involves medications to shrink the polyps or surgery to remove them. Some people need both.

## Case report

### Case Summary

Thirty-three year old male Sikh patient of Indian origin, resident of Paharganj area, New Delhi, whose occupation is CA with family income of INR 10 Lakh PA presented in ENT OPD with complaints of

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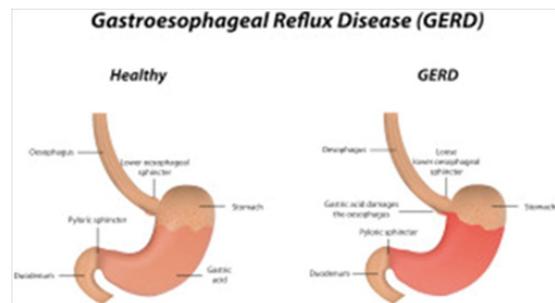
**Parvinder Kaur**

ENT Specialist, Guru Harikrishnan Hospital, India

**Correspondence:** Parvinder Kaur, Ent Consultant, MBBS, DLO, Guru Harikrishnan Hospital, I, Ashoka Road, New Delhi 110001, India, Email kparvinder@gmail.com

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persistent nasal blockage of more than 3weeks and cold for a month. He had a past history of cold for 7-8years with family history of Asthma in father.



On examination of nose he was observed to have? polyp++. He was investigated with CBC, AEC, PS and ESR, Nasal swab C/S, X-RAY PNS (DIGITAL) AND CT PNS (PLAIN).

His treatment spanned around 21days. He was treated with Azelastine nasal spray, Levocetizine-Montelukast combination and B-complex-Vitamin C combination.

The investigations revealed mildly raised TLC of 12100/c.mm with AEC of 950/ cu.mm. Nasal swab C/S isolated a colony of *E. coli* with colony count of 7/lac/ml. It was highly sensitive to Ciprofloxacin, Amikacin and Ceftrizoxime. The digital XRAY PNS was suggestive of Maxillary Sinusitis with nasal mucosal hypertrophy and Plain CT PNS suggestive of mucosal thickening in bilateral maxillary sinuses, sphenoid, frontal and ethmoid sinuses suggestive of chronic Pansinusitis.

Hence, he was further treated with Ciprofloxacin 500mg, levocetizine+motelukast combination and multivitamin with multimineral tablet, both once daily and 1% Xylometazoline 1-2 drops initially twice daily later at bed time only. The treatment spanned over 28days and the case resolved with Repeat X-ray PNS suggestive of frontal sinusitis and Plain CT PNS suggestive of fresh eruption of frontal polyps. This would settle with Azelast spray, Effcorlin nose drops, levo cetizine+motelukast combination for another 10-15days.

Hence, the case presented is diagnosed as a OPD Case of Chronic Pan Sinusitis Of *E.Coli* in Ongoing Case of Chronic Allergic Rhinosinusitis.

## Report

Thirty-three year old male Sikh patient of Indian origin, resident of Paharganj area, New Delhi, India whose occupation is CA with family income of INR 10Lakh PA presented in ENT OPD with complaints of persistent nasal blockage of more than 3weeks and cold for a month. He had a past history of Allergic rhinitis ongoing since 7-8years and family history of Asthma in father. His mother suffered hypertension, type 2diabetes and thyroid. He was non vegetarian by diet and had no history of any inhalant abuse. His personal habits were normal. On examination he was found to be well built and malnourished. He was obese with knuckle pigmentation. He had no pallor, lymphadenopathy, edema, clubbing, koilonychia or platynychia. He was well oriented in time, place and person. There weren't any significant scars. On local examination of the nose it was observed with? polyps++ and hence was subjected to investigations. He was investigated for CBC, AEC, PS, ESR, NASAL SWAB C/S, XRAYPNS (DIGITAL), CT PNS (PLAIN).

## Investigation reports

Dated 30.01.2015

Haemoglobin 14.0 /gm.dl

TLC 12100 /cu.mm

DLC - Neutrophils 68, Lymphocytes 22, Eosinophils 09, Basophils 01, Monocytes 00

AEC = 950 /c.mm

Platelet Count 2.25LAKHS /cu mm

Peripheral Smear

RBC Normocytic Normochromic in Nature

WBC Show Leukocytosis with Mild

Eosinophilia, Platelets is Adequate and no Haemoparasites or Immature Cells Are Seen.

Urine Examination was within Normal Limits

DIGITAL XRAY PNS-WATER VIEW

Maxillary Sinusitis with Nasal

Hypertrophy. Please Correlate Clinically.

NASAL SWAB C/S

*E.coli* was isolated with colony count of 7/lakh/ml. It was highly sensitive to Ciprofloxacin, Amikacin, and Ceftizoxime. Moderately sensitive to Cephalexin and mildly sensitive to Ampicillin, Norfloxacin and Nitrofurantoin

It was found resistant to Chloramphenicol, Tetracycline, Bactrim, Norxacin and Sparfloxacin.

06.02.2015

CT PNS (PLAIN)

5mm contiguous scan were obtained in the coronal plane without contrast administration

Mucosal thickening was seen in bilateral Maxillary Sinuses, Sphenoid Sinus, frontal and ethmoid sinuses

The nasal turbinates appear normal

Ostia of bilateral maxillary sinuses are patent. Infratemporal fossae are normal on both sides

Nasopharynx appears normal

No bony erosion is seen

Opinion: Pan Chronic Sinusitis

26.02.2015

DIGITAL XRAY PNS – WATER VIEW

Bilateral Maxillary Sinusitis with Left>Right Nasal Mucosal Hypertrophy

Please Correlate Clinically

27.03.2015

Repeat XRAY PNS

Nasal septum mildly deviated to right in upper part Right frontal Sinus hazy suggestive of sinusitis

Advised clinical correlation

28.03.2015

Repeat CT PNS (PLAIN)

5mm contiguous scans with 3mm reconstruction were obtained in coronal plane without contrast administration.

Nasal Septum S-shaped deviated to right in anterior and left to posterior.

Sphenoid sinus, Left Maxillary Sinus floor, Right Maxillary Sinus Medial roof, Right frontal sinus show lobulated soft tissue densities structure suggestive of polyps.

Bilateral Ethmoid sinus show mucosal thickening suggestive of sinusitis with soft tissue density polyp extending into nasal cavity.

Air fluid levels seen in both maxillary sinuses.

Bilateral osteomeatal units are obliterated.

Infratemporal fossae are normal on both sides.

Nasopharynx appears normal.

## Opinion

- DNS
- Acute On Chronic Bilateral Ethmomaxillary Sinusitis with Sinonasal Polyposis.

## Treatment and diagnosis

The case was treated initially as allergic rhinosinusitis with polyposis with anti allergic nasal spray (Azelastrine), in combination with mucokinetic agent (Levo-Cetirizine with Montelukast) and a combination of vitamin B Complex and vitamin C for promotion of healing and deficiency. On Investigation it was found that there was *E.coli* infection sensitive to Ciprofloxacin and X-ray and CT PNS revealed pan sinusitis, hence, anti-biotic cover was also given with Ciprofloxacin 500mg. Azelastrine was stopped because no evidence of polyposis was reported. The treatment was given for around 28days with complete remission of symptoms. There was reappearance of excessive sneezing with no complaints of nasal blockage, headache, feverishness or any other complaints. However he gave history of scanty watery discharge, non-foul smelling, non- irritating. So, it is thought to be the manifestation of ongoing allergic rhino-sinusitis which resulted in sinonasal polyposis which regressed and reappeared in the course of treatment. Therefore, again antiallergic nasal spray

(Azelastine), Steroid nasal drops (hydrocortisone), Levo-Cetirizine with Montelukast and Multi-vitamin and multimineral were added to the treatment that should resolve the problem in another 10-15 days. Hence, the treatment was concluded for the diagnosis of OPD Case of Chronic Pansinusitis of E.Coli In Ongoing Case of Chronic Allergic Rhinosinusitis with Recurrent Sinonasal Polyposis.

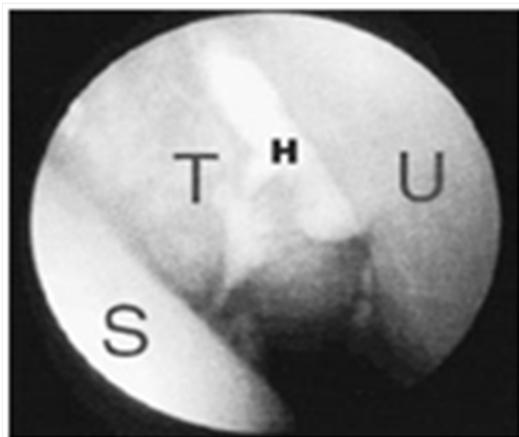
## Discussion

In 1996, the American Academy of Otolaryngology-Head & Neck Surgery multidisciplinary Rhinosinusitis Task Force (RTF) defined adult rhinosinusitis diagnostic criteria. Major factors included facial pain or pressure, nasal obstruction or blockage, nasal discharge or purulence or discolored postnasal discharge, hyposmia or anosmia, purulence in nasal cavity, and fever. In 2003, the RTF's definition was amended to require confirmatory radiographic or nasal endoscopic or physical examination findings in addition to suggestive history.

Some evidence suggests that children who eat less saturated fat and cholesterol and more omega-3 fats have less risk of developing rhinitis. Consumption of butter by children<sup>1-5</sup> and of liver by adolescents has been associated with greater frequency of allergic rhinitis. In contrast, use of an omega-3 fatty acid supplement, paired with a multiple vitamin-mineral formula containing selenium, was shown to decrease the number of episodes of sinus symptoms and acute sinusitis in children.<sup>6-11</sup>

## Further scope of study

The case could be studied further if the symptoms become troublesome and non-responding to treatment or recur frequently. Antral lavage, smear cytology of Antral/nasal secretions, biopsy of sinus mucosa, correction of septum, evaluation of deficiencies of vitamins and trace elements, mucociliary clearance tests may help further in a more sustained and effective treatment. With Advent of Technology Nasal Endoscopy facilitates direct visualization of the disease and its treatment in expert hands.



## Acknowledgments

None.

## Conflicts of interest

Author declares there no conflicts of interest.

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## References

1. Itzhak Brook. Microbiology of sinusitis. *ATS Journals*. 2011;8(1):90–100.
2. WIKIPEDIA The Free Encyclopedia.
3. Sumana J. Nasal polyps. *Medline Plus*. 2015.
4. WIKIPEDIA The Free Encyclopedia.
5. Andrew P. A Look At Enterobacter Sinusitis & GERD. 2015.
6. General Information. Centers for Disease Control and Prevention. 2015.
7. Orendorz-Fraczkowska K, Bochnia M, Dziewiszek W, et al. Cefprozil in the treatment of chronic maxillary sinusitis. Clinical and Microbiological Effectiveness and Penetration into Sinuses Examination. *Otolaryngol Pol*. 2005;59(4):517–522.
8. David OJ. Adult Rhinosinusitis: Diagnosis and Management. *American Family Physician*. 2001;63(1):69–77.
9. Itzhak B. Chronic Sinusitis. *Medscape*. 2016.
10. Allergic Rhinitis and Sinusitis: Nutritional Considerations. *NutritionMD*.
11. Daniel LH. Patient information: Chronic rhinosinusitis (Beyond the Basics). *Wolters Kluwer*. 2016.