

# Euro Case Report 2020: A Case Report of Minimally Invasive Management of Recurrent Multiple Nasal Polyps Hong

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## Abstract

### Background:

A case of extensive nasal polyposis with rarely aggressive recurrent nature and its management is presented.

**Case:** A 64-year-old female patient complained of recurrence of nasal polyps. The patient presented with multiple large polypoid lesion protruding from the both nostril, which had been treated with thermal ablations for more than four times. Biopsy under local anaesthesia was performed, showing findings consistent with nonspecific inflammation. Minimally procedure with microinjection of Triamcinolone Acetonide through nasoscope under local anaesthesia was performed at the comprehensive clinic layer by layer in a sequential time-point fashion, and the polypoid masses were medically ablated one after the other in the next three weeks. Postoperative follow-up has shown no evidence of recurrence after 3 months.

### Keywords:

Anosmia, Blindness, Mucocele, Paranasal sinuses, Pyocele

### Introduction:

Mucocele of the paranasal sinus is an incessant, growing, mucosa-lined injury portrayed by mucous retention.<sup>1</sup> The aggregation of mucous emission and possible auxiliary bacterial disease may bring about the development of a pyocele.<sup>1,2</sup> This clinical condition tends to distend and disintegrate the sinus hard dividers coming about, when the circle is included, in serious neuro-ophthalmic complications.<sup>3</sup>

Frontal and foremost ethmoidal sinuses are the commonest locales for mucocele or mucopyocele while the back ethmoidal, sphenoidal and maxillary sinuses are seldom involved.<sup>2,4–6</sup> Multiple paranasal sinuses might be included yet respective pansinus mucopyocele is rare.<sup>6</sup> Nasal polyps, contaminations, tumors (particularly frontal osteoma), past facial injury and intranasal medical procedures causing ostia blockage have been accounted for as prominent reasons for mucocele.<sup>7,8</sup>

This mucocele may get tainted and turn into a pyocele. The disease animates creation of cytokines [interleukin 1 (IL-1) and tumor necrosis factor (TNF)] from lymphocytes and monocytes,

and builds combination of prostaglandin (PGE<sub>2</sub>) and collagenase from fibroblast of the bodily fluid lining.<sup>9</sup>

Lund and Milroy et al showed and announced a high amount of cytokines (IL-1, IL-6, and TNF), PGE<sub>2</sub> and collagenase between the covering of the mucocele and sinus wall.<sup>9–11</sup> This is answerable for the resorption and pulverization of the sinus divider, taking into consideration the development of the mucocele.

### Case:

A 64-year-old female patient complained of recurrence of nasal polyps. The patient presented with multiple large polypoid lesion protruding from the both nostril, which had been treated with thermal ablations for more than four times. Center with a two year history of dynamic reciprocal nasal blockage and nasal mass. There was related intermittent mucoid nasal release, hyponasal discourse and loss of impression of smell. There was no epistaxis, neck growing, cheek or dental side effects. Two months before introduction, she created dynamic respective visual disability, more regrettable in the left eye. There was related migraine however no neck torment, heaving, or neurologic deficiencies. She had experienced the surgery, 8 years already, of two-sided outside fronto-ethmoidectomy, nasal freedom and reciprocal intranasal sub-par meatal antrostomy for respective multi-sinusitis with nasal polyposis. Histology report affirmed constant provocative polyp.

Assessment uncovered a young lady with hyponasal discourse and a slight level of mouth relaxing. She was not febrile and had no critical fringe lymph hub amplification. There was telecanthus and two-sided mended Lynch-Howarth entry point scars. Nasal assessment uncovered inflamed various polypoidal mass sores secured by mucopurulent discharges distending from and totally annihilating the correct nasal depression.

The mass was firm, touchy to contact however didn't seep on contact and seemed to emerge from the correct horizontal nasal divider. The left nasal depression additionally had a pale polypoidal mass secured with mucopurulent emissions. The mass was non-touchy, had no contact draining and seemed to emerge from the sidelong mass of left nasal. Assessment of the throat uncovered a granular back pharyngeal divider, and postnasal mucoid release.

Otосcopy uncovered unblemished however dull tympanic layer respectively. The neck seemed ordinary. The neuro-ophthalmic assessment uncovered left non-hub proptosis and visual sharpness of nil light discernment in the two eyes at 3 meters. A clinical conclusion of interminable rhinosinusitis with nasal polyposis was made.

The computed tomographic (CT) output of the paranasal sinuses and cerebrum uncovered broad blended thickness injuries inside all the paranasal sinuses. There was gross extension of the left frontal sinus whose extraordinarily sclerotic back divider caused checked pressure of the left frontal flap of the cerebrum. Comparative sores filled both nasal depressions (Figures 1).

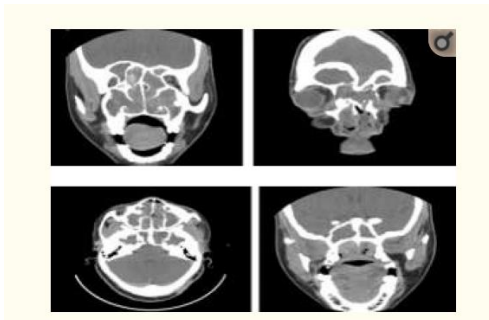


Figure 1: Axial and coronal slides of computed tomographic scan of the paranasal sinuses and brain of the patient showing the markedly expanded left frontal sinus with sclerotic walls and expanded mixed density lesion in all the sinuses.

The surgery was completed at a time and included reciprocal nasal polypectomy, two-sided intranasal antrostomy, and two-sided fronto-ethmoido-sphenoidectomy by means of respective fronto-nasal-orbital craniotomy. Remaking of Cranio-facial bone imperfections was encouraged utilizing a titanium skull clasp, the CranioFixR (B Braun, Aesculap, Germany), Figure 2.



Figure 2: The craniofacial bone flap reconstruction after the bilateral frontal-nasal-orbital craniotomy; greatly facilitated by the titanium clamp (CranioFix, arrow)

The employable discoveries were two-sided polypoidal intranasal masses, respective deformities in the supero-average dividers of the circles speaking with the ethmoidal sinuses straightforwardly, complex mucopycele in all the paranasal sinuses (Frontal, Ethmoidal, Sphenoidal, and maxillary sinuses) and sclerotic development of their dividers. The histology of the example affirmed ceaseless provocative polyp

Postoperatively, she developed cerebrospinal liquid (CSF) rhinorrhea on the fourth postoperative day and this was effectively dealt with sequential lumbar CSF seepage. The constant postoperative issues were respective visual deficiency and anosmia.

Discussion: This case report presents some significant purposes of significance in clinical practice in a creating nation. The first is the significant expense of a preventable two-sided visual deficiency that this patient keeps on paying for her postponement in introduction for treatment of an in any case considerate treatable sore. Another point is the excellence, and consequently the basic of interdisciplinary endeavors between skull base neurosurgeons and ENT specialists where neurological medical procedure and otorhinolaryngology meet in cases this way.

The presentation of paranasal sinus mucocoele is generally unilateral; bilaterality is rare indeed. Our patient represents one of such rare occurrences of bilaterality. This might have happened due to the associated recurrent bilateral nasal polyposis or the previous bilateral intranasal surgery which this patient had.

The old conventional intranasal surgical line of attack which does not employ the use of the current modern progressive surgical tools like nasal endoscopes to aid visualization of intranasal structures, has the great potential of inadvertently damaging or removing the thin bone of the orbit (lamina papyracea) and optic nerve with a possibility of damage to these structures.<sup>12-13</sup>

The current gold standard of imaging the paranasal sinuses is the CT scan which is very good at recognizing any sinus mucocoele and any other pathological changes within the paranasal sinus cavities.<sup>9,11</sup> Mucocoele is confirmed as a homogenous smooth walled mass, expanding the sinus, with thinning or loss of the cortical bone altogether. There may be confirmation of new bone formation or sclerosis (Figure 1), as the mucopycele may initiate a process of bone resorption and expansion.<sup>11</sup>

Conclusion: Nasal polyps manifests typically in an aggressive recurrence manner. Since thermal ablation has been intolerant after multiple times, we managed it under local medical ablation with Triamcinolone Acetonide at the clinic, suggesting minimally invasive management on complex nasal polyps is feasible in the clinical setting.

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