

Inhaled Corticosteroids Administered By Pulsating Aerosol – A Therapy Option For Sinusitis Frontalis? A Case Report

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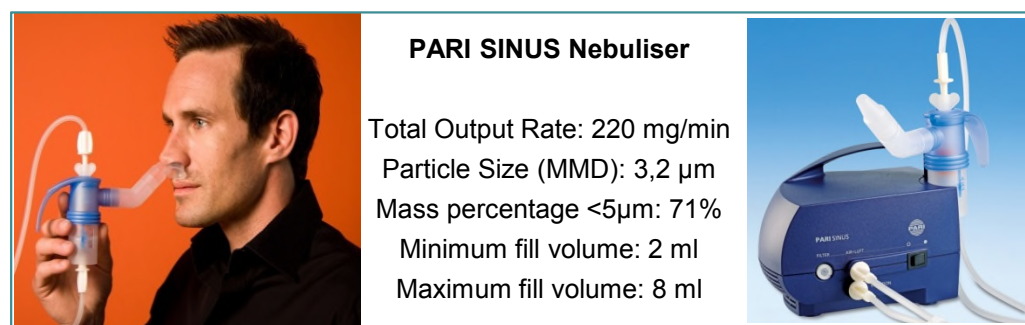
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Introduction: Frontal sinus infection might be less frequent than sinus maxillaris infections but may lead to orbital complications. Symptoms include pain in the forehead area, eye-involvement, purulent nasal secretion. Standard treatment of sinus infections are secretolytics, decongestants and pain relievers. The success of topical drug delivery to the sinuses – which is principally desirable – is often limited because the paranasal cavities are virtually non-ventilated areas. Despite its use being widespread the treatment with corticosteroids via nasal sprays is unable to reach the sinus cavities.

Aim: An innovative inhalation system (PARI SINUS) providing a pulsating aerosol has been shown to improve the ventilation and the particle deposition within the paranasal sinuses compared to an inhalation without vibration. This case report describes the treatment of sinusitis frontalis with a pulsating corticosteroid (budesonide) aerosol.



Case report: In December 2014 the patient (male, 48) introduced himself with following chronic polypoid pansinusitis-history :

- 5 sinus surgeries (latest in 2013) with recurrent symptoms few weeks after the surgeries
- daily nasal lavages
- nasal steroid 2 times per day
- oral steroid scheme for at least 2 weeks up to 3 times/year
- oral antibiotic scheme up to 2 times per year

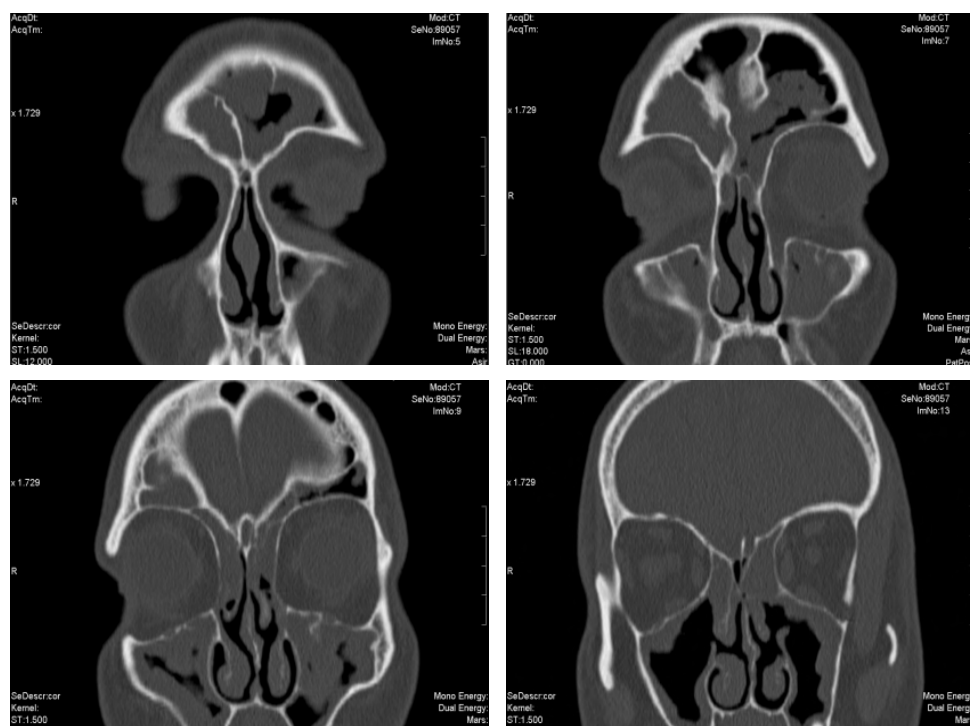


Figure 1: CT-scans prior to inhalation therapy with budesonide: Symptoms were described as recurrent swelling of the right eye, retro-bulbar pain, reduced eye mobility and recurrent diplopia.

Methods: CT-scans showed shadowing of the sinus frontales with extraconal inflammation (through mucocele / pyocele), frontally and frontobasally thinned corticalis, blocked anterior and middle ethmoidal cells and mucosa-beddings in sinus maxillares and sphenoidalis (Fig 1). After revision surgery the therapy was intensified to 0,5 mg budesonide intranasal administered by pulsating aerosol (PARI Sinus, PARI GmbH, Germany) twice daily.

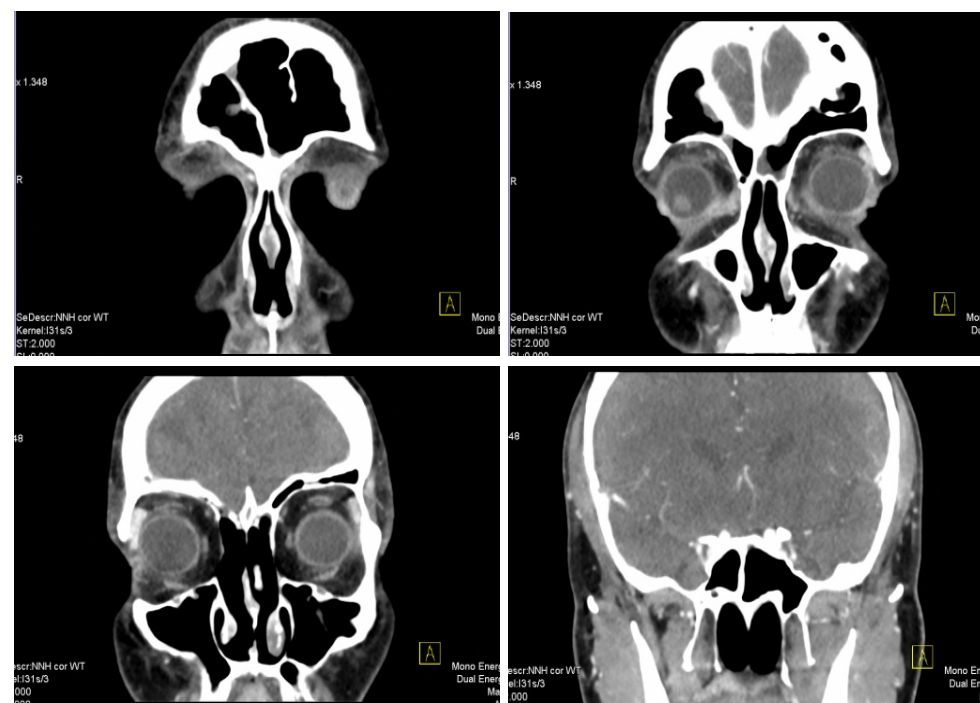


Figure 2: Post-interventional CT-scan: resolution of the sinus shadows. In this stadium no sinusnasal symptoms were reported.

Results: After 2 month treatment the patient was subjectively symptom-free. CT-scans were without findings in the frontal and maxillary sinuses. Ethmoid and maxillary sinuses were free of secretions. The mucosa in the nasal and sinus cavities was inconspicuous (Fig. 2).

Conclusion: Inhalation therapy with budesonide via pulsating aerosol appears to be a pain-free, non-invasive treatment option from which patients with sinusitis frontalis might benefit. Further clinical studies on this topical treatment approach are certainly needed and ongoing.