



POSTER PRESENTATION

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Expression of nitric oxide synthase in nasal polyps

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Background

Nitric oxide (NO) is a short-lived, reactive molecule generated by nitric oxide synthase (NOS). Three isoforms of NOS have been identified including: neuronal NOS (NOS1), endothelial NOS (NOS3) and inducible NOS (NOS2).

Objective

To identify expression of isoforms of NOS in nasal polyps (NP) and normal nasal tissue, and to determine if differences exist in NOS expression in NP rich in eosinophils (Eo-hi) or with few eosinophils (Eo-low).

Methods

NP were obtained after endoscopic surgery for chronic rhinosinusitis, and separated into two categories based on eosinophil density. Nasal middle turbinates (MT) were also collected as normal controls from patients who had undergone surgery for pituitary adenomas. To identify cell types expressing isoforms of NOS, double immunostaining was performed using anti-NOS and anti-leukocyte antibodies (e.g. mast cells [MC], eosinophils, T cells and macrophages).

Results

Expression of NOS isoforms in all cell types was greater in NP than in MT. Number of NOS2 positive cells in Eo-hi NP was higher than in Eo-low NP. However, there were no differences in the numbers of NOS1 and NOS3 positive cells between Eo-hi and Eo-low NP. Both NOS2 positive MC and NOS2 positive Eo were significantly greater in NP than in MT. In addition, the percentage of NOS2 positive MC in Eo-hi NP was significantly higher than in Eo-low NP.

Conclusion

Elevation in NOS2 expression in several cell types might be an important factor in the life history of NP, especially those with an abundance of eosinophils.

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