Impact of fungal presence in the air on development of fungal rhinosinusitis No. 977

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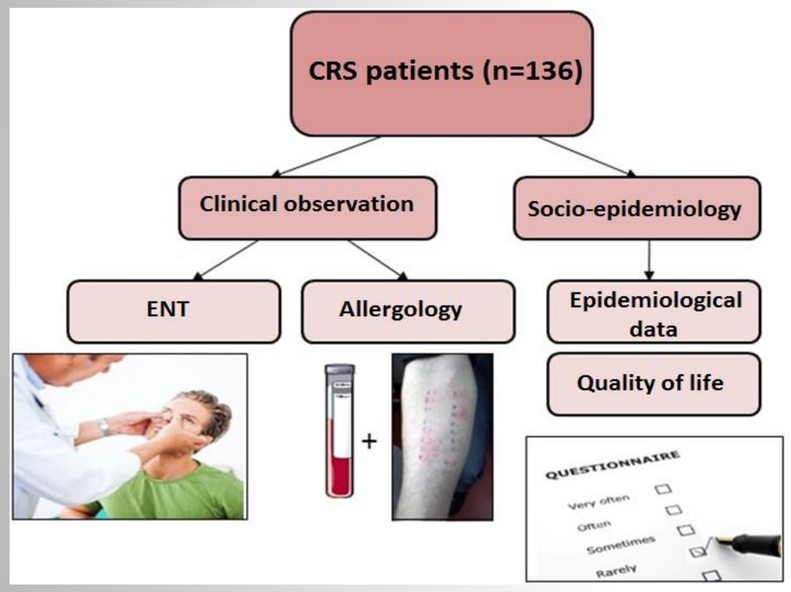
INTRODUCTION

The relationship of the mycobiome of sinonasal mucosa, immune response on fungal presence in environment and development of FRS is not yet revealed. The aim of our study was to evaluate the relationship between the presence of fungi on sinonasal mucosa with their presence in the air of patient‘s homes and patient‘s clinical and allergological characteristics.

METHODOLOGY

Design of the study

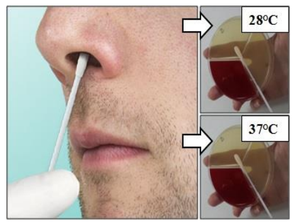


***Skin prick test* (SPT)**

CT

Design of sampling methods

1. Swab



2. ISNS_L

3. ISNS_A

RESULTS

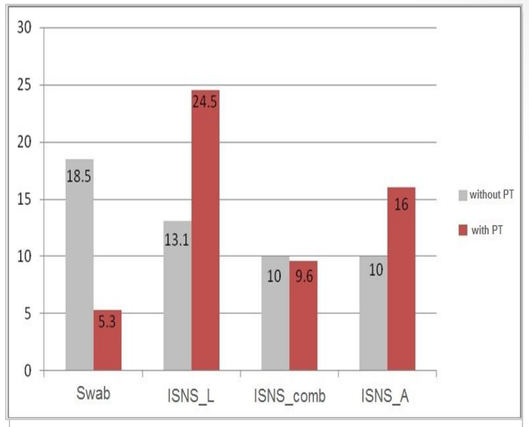


Fig. 1 Positive fungal finding (%) in sinuses by methods ISNS_A, ISNS_L, ISNS_comb and swab with and without PT (*per sinuses*)

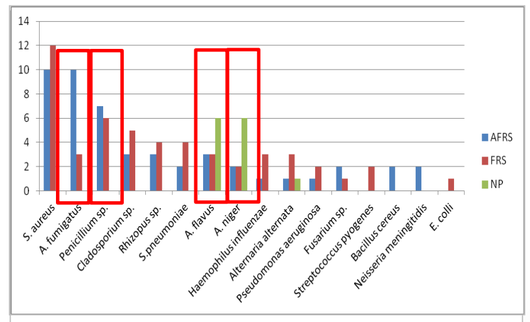
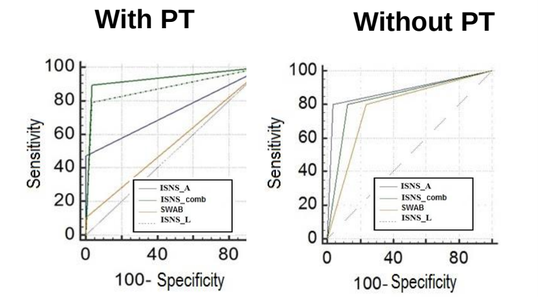


Fig. 3 Distribution of fungi and bacteria in relation to patient’s group AFRS, FRS and NP (*per sinuses,* percentage)



Method	Evaluation	Percentage
ISNS_comb	Sp/Sn	89%; 96%
ISNS_comb	PPV/NPV	94%; 93%
ISNS_L with PT	PPV/NPV	93%; 87%

Fig. 2 Performanses (Sn/Sp) of ISNS methods for detection of fungi in relation to clinical diagnosis of FRS

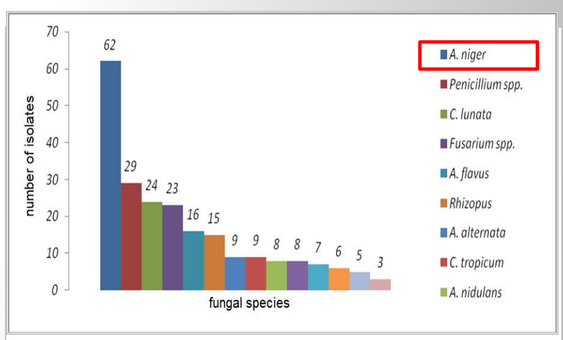


Fig. 4 Distribution of fungal species in air sample from the patient’s home

CONCLUSION

We propose that persistent presence of fungi in the air and prolonged duration of CRS should be silent threat for progression of inflammation and development of FRS. As the fungi trigged the enhance of IgE Ab and eosinophils, lavage with hypertonic NaCl should be included in every day hygiene routine in effort to decrease the fungal load and antigenic exposure. Presence of allergological parameters and better response on corticosteroid therapy in AFRS patients should be crucial diagnostic criteria for AFRS.

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