



Technology Offer

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Novel biomarkers for recurrent tonsillitis

Introduction

The palatine tonsils represent the first line in the defence of oropharyngeal pathogens and several reports have described their immunological significance. However, in some cases the palatine tonsils provoke increased inflammatory reactions associated with symptoms of a sore throat and a general malaise.

Acute tonsillitis is the most common reason for emergency admission to otolaryngology service. Recurrence of acute tonsillitis (RAT) and of sore throat episodes in general generate a substantial utilization of medical resources.

Tonsillectomy and tonsillotomy are very common procedures and several reports have described the benefits concerning recurrent tonsillitis and recurrent sore throat episodes.

However, due to possible harms of surgery such as pain or postoperative hemorrhage and the uncertainty of postoperative persistence of sore throat episodes, indication for tonsillectomy has become a source of controversy over the last years.

Thus, there is a need for (an) objective and reliable biomarker(s) to identify patients with an increased risk of recurrent tonsillitis and to specify the patient selection for tonsillectomy or tonsillotomy.

Invention

The present invention relates to a method of stratifying, of diagnosing recurrent tonsillitis and of predicting the risk or the predisposition for recurrence of acute tonsillitis (RAT) in a subject having no symptoms of acute tonsillitis for the necessity of tonsillectomy or tonsillotomy, comprising

- determining the amount of the biomarkers IL-1 β , IL-18 and S100A8/S100A9 in a sample obtained from said subject, and
- stratifying said subject for the necessity of tonsillectomy or tonsillotomy by comparing the amount of said biomarkers with a threshold value for each biomarker.



Symptom-free: with and without surgery:
For recurrent episodes of acute tonsillitis: with the RAT-score to the right therapy

New aspects of the invention

An objective criterion to identify patients suffering from recurrent (episodes of) acute tonsillitis (RAT). In particular, by analyzing serum and saliva, increased levels of IL-1 β , IL-18 and S100A8/S100A9 can be observed in symptomless patients suffering from RAT compared to healthy controls. These parameters are combined to a so-called "RAT-score", which allows a reliable patient identification with a sensitivity of 95% and a specificity of 88%. Equally, the RAT-score allows for the prediction of an increased risk or the predisposition for recurrent episodes of acute tonsillitis.

Advantages of the invention

- The methods and uses described and provided by the present invention allow for a reduction of illness-related absence from work and a noticeably improved quality of life.
- The RAT-score represents the first objective criterion to determine the diagnosis of recurrent episodes of acute tonsillitis and improves the patient selection for tonsillectomy and tonsillotomy.

Patent situation

A PCT patent application has been filed.

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