The innate immunity plays a crucial role in the oral cavity, due to its ability to rapidly respond to a wide range of pathogens. The genetic control of innate immune system represents a possible candidate to explain, at least partially, the susceptibility to recurrent tonsillitis.

Material and methods
We study defensins encoding genes analyzing the copy number variations (CNV) of defensins gene cluster in patients with tonsillar hypertrophy and recurrent tonsillitis, correlating CNV with DEFB4, DEFB103 and DEF104 defensins genes expression. We enrolled 100 patients with tonsillar hypertrophy and 50 patients with recurrent tonsillitis at the ENT Service of the Children Hospital Burlo Garofolo of Trieste (Italy). CNVs of defensins genes cluster have been evaluated. DEFB4, DEFB103, DEF104 mRNA expression was assessed. Defensins localization has been performed by using immunohistochemistry.

Results
The distribution of defensins genes cluster CNV was similar between individuals with tonsillar hypertrophy and patients with recurrent tonsillitis. Defensins gene expression analysis showed a great inter-individual variability with no specific differences between subjects with tonsillar hypertrophy and patients with recurrent tonsillitis or correlation with the number of CNV. Immunohistochemistry analysis allowed to localize hBD2 and hBD3 in the tonsils epithelium, also in this case no differences between tonsillar hypertrophy and recurrent tonsillitis.

Conclusions
CNV in defensins genes did not show any association with recurrent tonsillitis in our population study.