Cough is a common symptom that affects a large proportion of the general population, but has been somewhat neglected in the epidemiological literature in the recent years. Cough is a major symptom of asthma and COPD, two chronic respiratory diseases. Whereas hypothesis-free methods are increasingly implemented to disentangle the phenotypic heterogeneity of such chronic diseases considering dozens or hundreds of variables, detailed analysis of each symptom is an essential approach to be conducted in parallel and cough is an interesting symptom, much more complex in itself than often thought.

Using published and unpublished data from various epidemiological studies, the following aspects will be discussed: the heterogeneity of cough according to sex, environmental determinants, and genetic determinants. Coughs of men and women will be discussed. Phenotypic heterogeneity according to the chronicity, whether it is productive or not, according its daytime or nocturnal characteristics will be described. Results on three types of coughs (nocturnal, non productive and productive cough) from the European Community Respiratory Health survey will be discussed. Environmental determinants, in particular smoking and occupational exposures will be discussed, as well as triggers of fits of coughing. Longitudinal observations over 12 years of various coughs (usual and chronic, productive or not), nocturnal cough will be described based on unpublished data from the Epidemiological study on the Genetics and environment of asthma.

Transient receptor potential vanilloid receptors (TRPV) may play an important role in the pathogenesis of irritant-induced cough. Preliminary results showed in the EGEA study that TRPV4 and TRPV1 SNPs were associated with usual and nocturnal cough. Further, gene-environment interaction between occupational exposure to vapors, gases, dusts and/or fumes and TRPV1 SNPs was evidenced in that study.

As for disease in general, an improvement of cough characterisation may allow a better understanding of the etiology of cough and of diseases such as asthma and COPD.


Kauffmann F, Dizier MH, Pin I, et al. Epidemiological study on the genetics and environment of asthma, bronchial hyperresponsiveness and atopy (EGEA) - Phenotype issues. Am J Respir Crit Care Med 1997;156 : S123-S129


