A nationwide survey of hereditary angioedema due to C1 inhibitor deficiency in Italy

Andrea Zanichelli1, Francesco Arcoleo2, Maria Pina Barca3, Paolo Borrelli4, Maria Bova5, Mauro Cancian6, Marco Cicardi1, Enrico Cillari2, Caterina De Carolis8, Tiziana De Pasquale7, Isabella Del Corso9, Ilaria Massardo9, Paola Minale10, Vincenzo Montinaro11, Sergio Neri12, Roberto Perricone13, Stefano Pucci7, Paolina Quattrocchi14, Oliviero Rossi15, Massimo Triggiani16

From 3rd WAO International Scientific Conference (WISC) 2014 Rio de Janeiro, Brazil. 6-9 December 2014

Background
Hereditary angioedema due to C1-inhibitor deficiency (C1-INH-HAE type I) or dysfunction (C1-INH-HAE type II) is a rare disease characterized by recurrent episodes of edema with an estimated frequency of 1:50,000 in the global population without racial or gender differences. In this study we present the results of a nationwide survey of C1-INH-HAE patients referring to 17 Italian centers, the Italian network for C1-INH-HAE, ITACA

Methods
Italian patients diagnosed with C1-INH-HAE from 1973 to 2013 were included in the study. Diagnosis of C1-INH-HAE was based on family and/or personal history of recurrent angioedema without urticaria and on antigenic and/or functional C1-INH deficiency.

Results
983 patients (53% female) from 376 unrelated families were included in this survey. Since 1973, 63 (6%) patients diagnosed with C1-INH-HAE died and data from 3 patients were missing when analysis was performed. Accordingly, the minimum prevalence of HAE in Italy in 2013 is 920:59,394,000 inhabitants, equivalent to 1:64,935. Compared to the general population, patients are less represented in the early and late decades of life: men start reducing after the 5th decade and women after the 6th. Median age of patients is 45 (IQ 28-57), median age at diagnosis is 26 years (IQ 13-41). C1-INH-HAE type 1 are 87%, with median age at diagnosis of 25 (13-40); type 2 are 13% with median age at diagnosis of 31 (IQ 16-49). Functional C1INH is ≤50% in 99% of patients. Antigen C1INH is ≤50% in 99% of type 1. C4 is ≤50% in 96% of patients.

Conclusions
This nationwide survey of C1-INH-HAE provides for Italy a prevalence of 1: 64,935. C1-INH-HAE patients listed in our database seem to have a shorter life expectancy than the general population. Since angioedema symptoms usually start during puberty, the estimated delay in diagnosis is higher than 10 years. The chance of having C1-INH-HAE with C4 plasma levels >50% is < 0.05.