291 Cystic fibrosis mortality trend in Italy between 1970 and 2011

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Objectives: To describe mortality trend for CF between 1970 and 2011 in Italy; to verify the existence of a gender gap; to analyze the full morbidity process leading to deaths.
Methods: Mortality data were extracted from the database of underlying cause of death (1970–2011) and multiple causes of death (2003–2010) of the Italian National Institute of Statistics. Age-specific mortality rates for CF and age-standardized mortality ratio (SMR) were calculated to compare mortality between genders. In order to verify the association between CF and other conditions, we determined whether the distribution of the potential CF-associated causes of deaths differed from that of the non-CF population by calculating the Proportionate Mortality Ratio (PMR).
Results: During the study period, 1947 death certificates reported CF as the underlying cause of death. Mortality rates for CF substantially decreased in children and by the end of the 1990s also in adolescents and young adults. A remarkable excess in mortality was observed in young CF females (1–29 years) [SMR: 1.30 (95% CI 1.20–1.40)]. Pneumonia (PMR: 4.8), chronic lower respiratory diseases (PMR: 5.1), sepsis (PMR: 3.4), diabetes mellitus (PMR: 6.7) and renal failure (PMR: 2.8) were more frequently reported as causes of death in people who died for CF than in those who did not die for CF.
Conclusion: The mortality trend for CF in Italy reflects the effect of the significant advances in treatment over the period. Our results support persistence of a female-gender disadvantage in mortality for CF. Other diseases not involving the respiratory tract were found to have contributed to the morbidity process leading to death.

292 Specific causes of mortality in CF patients in France 2007–2010

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Objectives: To examine specific causes of mortality in CF patients in the era of lung transplantation.
Methods: Deaths in CF patients were identified using the French national death registry, which collect data on all death certificates in France. Individual patients were identified using the French Cystic Fibrosis Registry and individual files were requested from the CF centers accross France. Mortality causes were adjudicated by an independent adjudication committee composed of respiratory physicians, pediatricians and transplant specialists.
Results: Between 2007 and 2010, death certificates identified 285 deaths in CF patients of which 91% (139 women, 120 men) were followed in CF centers according to the French CF Registry. Median age of death was 26 yrs and the peak of death occurred between 25 and 30 yrs. Based on CF Registry data, approximately half the patients died without lung transplantation, although only few patients died on transplant waiting list. Only 15% of patients died before the age of 20 yrs; a gender gap was present in infant and adolescents in whom women died twice as much as men, but not in adults. Specific causes of death before and after lung tranplantation are currently being analyzed.
Conclusion: Approximately half of the patients with cystic fibrosis in France between 2007–2010 died without receiving lung transplantation. Identification of causes leading to the absence of transplantation in these patients may lead to improvement of survival in CF patients.

293 Spectrum of mutations and survival data for adult CF patients from Sofia CF center

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Objectives: To analyze the mutations spectrum among adult CF's and their outcome.
Methods: All adults at or above 18 years of age at the end of 2013 y, have been inspected for their mutations, ages at diagnosis, condition and outcome.
Results: Adult CF patients (n = 44, males 25, females 19) consisted 27.07% of all diagnosed CF patients (n = 119). No significant gender and age differences-37.88% (25/66) males and 35.85% (19/53) females have been detected; median age was found to be 22.5 y (range 18–34 y) for males and 26.0 y (range 19–58 y) for females. Two thirds of the patients (30/44) were diagnosed during their very early childhood and only 4 during adulthood. F508 homozygous were about one fourth (12/44, 27.27%), another one fourth (12/44, 27.27%) were non F508 and the rest (21/44, 47.73%) was compound heterozygous for F508. Unknown CF mutations were 10 (11.36%) – in 7 cases accompanying F508 and in 3 – other mutation. In total CF alleles consisted: 45 (51.14%) F508, 6 N1303K (6.81%), 4 2184insA (4.54%), 3 R347P (3.40%), 3 1070Q (3.40%), four mutations (G85E, Q220X, 3849+10KB C-T and 621+1G-T) were found double and the rest (306del TAGA, G542X, R75Q, N119T, G1244V+S912L, G1069R+L88X, 1898+3G-A, 2183/2184 A-G and 4374+G-A) once. The death incidence was 11.36% – mean age 27.5 y and 24.0 y for males/females. Homozygous for F508 was just one. In another two, F508 was accompanied with R1070Q and 3849+10KB C-T respectively, another two were not F508 – R349P/R349P and 2184 ins/unknown.
Conclusion: In a situation without available newborn screening program and some therapeutic and care restrictions the data display optimistic opportunities for a better life with CF disease.

294 The experience of adult cystic fibrosis centre in Lithuania in 2009–2013

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Background: Most cystic fibrosis (CF) patients receive medical care in the specialized multidisciplinary children and adult CF centres worldwide.
Objective: To analyze the patients clinical data of the first Adult CF centre in Lithuania.
Methods: Data analysis from CF registry database (CFdbase v.2.33, St. Luc University Hospital, Brussels) from January 2009 to December 2013 was done.
Results: Twenty-one CF adult patients were at the end of 2013 (two women died in 2009 and 2012, one man in 2013). CF diagnosis was confirmed genetically in 52% of patients (91% of them had ΔF508). The youngest patient was 18, the oldest one 32 years. The median age of CF patients was 22.4 (2009), 21.7 (2010), 22.7 (2011), 22.6 (2012) and 23.1 years (2013). The mean BMI was 18.2, 18.5, 18.5, 19.4, 19.8 kg/m^2, lung function as mean FEV_1 was 50.5%, 63.9%, 59.3%, 75.1%, 57.9% of predicted, respectively. The most prevalent respiratory pathogen was methicillin-sensitive *Staphylococcus aureus* – 50.0, 38.9, 26.1, 33.3 and 21.4%; there were no methicillin-resistant *S. aureus*. The rate of *Pseudomonas* spp. was 14.3%, 22.2%, 26.1%, 12.5%, 14.3%, *Burkholderia cepacia* complex 14.3%, 11.1%, 13.0%, 12.5%, 7.1%, accordingly. The first cases of *Stenotrophomonas maltophilia* were identified from 2011. The rate of CF exacerbations requiring hospitalization was 0.8, 0.9, 0.9, 1.2, 0.9 per person per year, accordingly. Our Centre has successful experience with pregnant CF woman – she gave birth to a healthy baby without significant complications.
Conclusion: Specialized CF Centre is able to provide a comprehensive medical care for CF patients and Centre care model is advisable in Lithuania as well.