PREVALENCE OF SPORADIC AND SPORADIC AND FAMILIAL SEVERE HAEMOPHILIA: IS ANYTHING CHANGED?

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INTRODUCTION AND AIMS

The prevalence of sporadic haemophilia was estimated by Biggs and Macfarlane (1966), forty years ago, as about one-third of total cases. More recently, an analysis of 804 haemophilia pedigrees (Haemophilia, 2007) estimated that in 569 patients with severe haemophilia B and A 43% and 56% respectively were sporadic i.e., either isolated cases or brothers in the first affected sibship. In 88% of mothers and 19% maternal grandmothers of these sporadic cases was detected the causative mutation. Since the activation of the Emilia-Romagna Network for inherited bleeding disorders in 2001, valuation of pedigrees allowed us to notice that in ten years we had a significant increase of new sporadic cases of severe haemophilia.

In this study we valuated all severe patients born from late nineties to nowadays in Emilia-Romagna Region. Among 45 analysed pedigrees, 37 were sporadic cases (82%) and 8 (18%) were familial. All severe haemophilia B were sporadic.

We further distinguished the " isolated cases" (figure 1), only one affected patient in the family, from the "sporadic sibship" (figure 2); in our cohort we had only one family with 2 affected sibship.

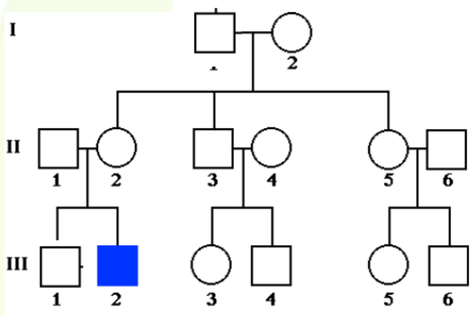


Figure 1
X linked recessive inheritance –sporadic case

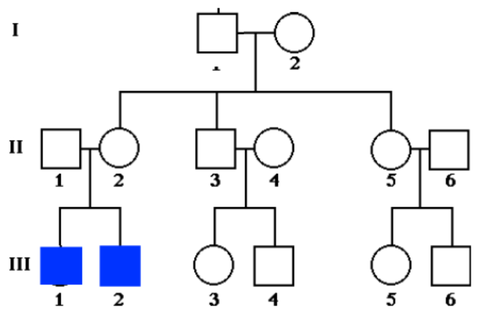
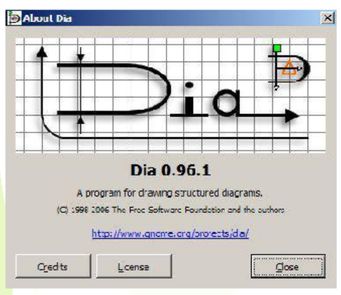


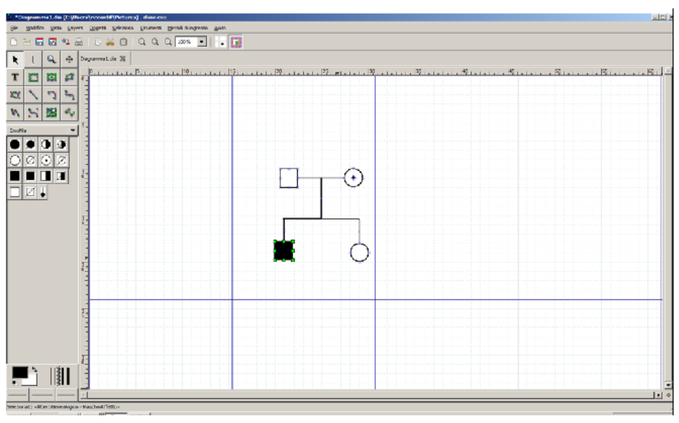
Figure 2
X linked recessive inheritance sporadic sibship

METHODS

We drew genealogic trees of all severe haemophilia patients born from late nineties to nowadays in Emilia-Romagna Region with DIA open source drawing software, adapted to genetic studies.

We performed the molecular analysis on all affected patients of analysed pedigrees (sporadic and familial). Then we looked for the characterized mutations also in mothers and maternal grandmothers.





RESULTS

We found out that 82% of mothers and 31% of maternal grandmothers of sporadic cases were carriers. This study considered also the influence of prenatal diagnosis and termination of pregnancy in obligated carriers (haemophiliac's daughters). In Emilia-Romagna seven prenatal diagnosis were performed: one affected male (termination of pregnancy), one healthy male and five females.

CONCLUSIONS

Many reasons, that need further investigations, could explain this tendency to a increase in sporadic cases as, for example, family size smaller than in the past and more awareness in affected families.

Biggs R., Macfarlane RG. Treatment of haemophilia and other coagulation disorders. Philadelphilia: F.A. Davis Company, 1966; 22.
Kasper CK., Lin J.C. prevalence of sporadic and familial haemophilia. Haemophilia (20079, 13, 90-92

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