Familiar history of suicidal behavior

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Historia familiar de conducta suicida

Summary

Suicide is such a serious public health problem that it has been proposed as an indicator of mental health of a society. Self-harm, a behavior related with suicide, is also a public health problem with a prevalence 8 to 15 times higher than suicide. Suicide behavior is the result of different social, cultural, biological and psychopathological factors and affects all the cultures. This clinical case of 4 brothers from a family of 8 siblings seen repeatedly due to suicide attempts make it possible to discuss these factors. The family and social report describes a low economical and cultural level. The family climate is marked by aggressive environment and inappropriate care of the children. Different members of the siblings initiated drug consumption as a teenager. It is interesting to point out the high frequency of suicide attempts in this family and the health resources used as well as the deterioration in the quality of life associated. The elevated weight of the family factors in the development of the suicide behavior is observed and offers the opportunity of questioning if whether it is the environmental factors, genetic vulnerability to mental disorder or specific predisposition to suicidal behavior that is transmitted in the family.

Key words: *Suicidal behavior. Suicide. Family. Genetic. Mental disorder. Environment.*

Resumen

El suicidio constituye un problema de salud pública tan grave que se ha propuesto como indicador de la salud mental de una sociedad. Íntimamente relacionada con lo anterior están las lesiones autoprovocadas siendo 8 y 15 veces más frecuentes que los suicidios consumados. La conducta suicida es el producto final de diferentes situaciones influidas por factores sociales, culturales, psicopatológicos y biológicos, y que afecta a todas las culturas. El caso clínico de cuatro pacientes pertenecientes a una misma fratría de ocho hermanos atendidos en repetidas ocasiones por intentos de suicidio que se presenta permite discutir estos factores. El informe familiar y social documenta una extracción económica y cultural muy empobrecida. El clima familiar ha estado marcado por la agresividad y la negligencia en el cuidado de los hijos. Distintos miembros de la fratría se iniciaron precozmente en el consumo de diversos tóxicos. El caso que se presenta ofrece la oportunidad de discutir algunos aspectos de interés relacionados con la conducta suicida. Es destacable la importante prevalencia de reintentos de suicidio que encontramos en nuestra serie con el gran consumo de recursos sanitarios que acarrea y el deterioro de la calidad de vida que se le asocia. Se aprecia el elevado peso de los factores familiares en el desarrollo de la conducta suicida y ofrece la oportunidad de preguntarse si lo que se transmite en la familia es un factor ambiental, la vulnerabilidad a padecer un trastorno psiquiátrico o bien una predisposición específica a la conducta suicida.

Palabras clave: *Conducta suicida. Familia. Genética. Ambiente. Psicopatología.*

INTRODUCTION

Suicide is a serious public health problem, up to the point that some authors propose using suicide rates as an indicator of a society's mental health[1,2]. Suicide is directly responsible for about 30,000 yearly deaths in the USA[3] and 120,000 in Europe. This value contrasts with deaths due to other violent causes such as homicides (736,000) or wars (588,000) or due to other classic public health priorities such as lung cancer (2.3%). In regards to the economic impact, it is estimated that only in the USA, the yearly cost of major depression (derived from medical care required and loss of productivity) is 43,700 billion dollars and of suicide attempts 111,000 billions. There were 30,027 suicides in this country in the period that goes from 1994 to 2000, with a total of 1,096,075 potential years of life lost, and 700,000 yearly visits were counted for suicide attempts.

Health care for self-induced harm also is a very significant clinical problem. Some estimates suggest that suicide attempts are 8 to 15 times more frequent than consummated suicides[1]. The more than 100,000 yearly

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emergencies seen in the United Kingdom for this problem[4], the 120,000 suicide attempts counted in France during 1998 and the 750,000 that occur yearly in the USA serve as an example[5,6]. In our setting, a general hospital such as Ramon y Cajal in Madrid, whose area covers 500,000 persons, sees a mean greater than 1.3 patients with suicide attempt per day (7), between 300 and 500 suicide attempts yearly[8]. In 1992, Sarró and Nogué reported similar values in Barcelona, where the suicide attempt prevalence is 100 per 100,000 inhabitants and year (and 10 suicides consummated per 100,000 inhabitants and year). Health care for suicide attempts represents one fifth of all the psychiatric emergencies in the Hospital La Paz in Madrid[1,9] and 15% of those seen in the University Hospital of Valladolid[1]. For García-Campayo et al.[10], suicide attempts account for more than 10% of all the medical visits made by psychiatric patients in a Manchester hospital and 35.5% of the hospitalized psychiatric patients who finally required medical admission.

In regards to the disability associated to suicidal behavior, in 1998 in the industrialized countries, suicide was among the most frequent causes of burden for the society produced per disease measured in the DALYs (Disability Adjusted Life Year) that reflects both disability as well as mortality. Self-harm primarily affects young adults (15-34 years), generating a large proportion of these burdens[11]. The relevance of suicide attempts is not only found in associated morbidity, but also in the risk of consummated suicide included, since 10% of the patients with suicide attempts end up committing suicide and 1-2% do so in the next year.

Suicidal behavior is the final product of different situations influenced by social, cultural, psychopathological and biological factors that affect all the cultures[2,12-15]. The difficulties of conceptualizing suicide arise from different facts: diversity of behaviors that are included under the concept of suicide, heterogeneity of nomenclatures that the different authors have used in their studies on suicide and variety of approaches and orientations that have treated suicide. These circumstances have contributed to adding confusion and undermining unanimity to the definition of suicidal behavior, up to the point that conceptualization of suicide is as problematic as the crossroad in which the suicidal subject is found[16].

Classic french psychiatry initiated its reflection on suicide in the XIX century. It considered it a product of two different circumstances: either a consequence of the unfortunate vicissitudes of life, or a disease or symptom of disease. It has moved progressively towards ideas of suicide that are more operative and useful for investigation. Thus, the new definitions of suicide try to incorporate intentionality of suicide, refining the distinction between attempted and consummated suicide and finally they include suicidal behavior within the wider field of self-destructive behaviors[17]. On the other hand, the theories that precisely inaugurated the thoughts on suicide at the end of the XIX century and beginning of the XX one, Freud's psychoanalytic theory[18,19] and Durkheim's sociological theory[20], link it to intrapsychic and pulsional factors and with social and cultural factors respectively.

There are many factors that influence the production of suicide behavior and they influence psychosocial, sociodemographic and psychiatric variables as well as biological and genetic factors. Blumenthal[21], for example, differentiates five domains or spheres of vulnerability, constituted by psychosocial factors, personality factors, psychiatric disorders, biological factors and family and genetic factors. Similarly, other authors recognize four areas: situational factors, psychiatric disorders, biological factors and family factors.

In the study of the clinical factors, we find two of the principal markers of suicide risk: suffering mental disease and existence of a background of previous suicide attempts. Regarding the former, three psychiatric disorders are found; isolated or in combination, in almost all the individuals who have had some type of suicide behavior: depression, alcoholism and schizophrenia[22-24]. Of the three, the literature reviewed presents depression as the psychiatric disorder having the greatest suicide risk, demonstrated both in consummated suicides (by the use of psychology autopsy) as well as in samples of suicide attempts or patients with suicidal ideation, in all ages[25-27].

Biological investigation of suicidal behavior sets out to resolve the limitations of these previously mentioned risk factors which, although they have high sensitivity[28-30] and are capable of defining the theoretical risk that a patient may commit suicide, have low specificity, very limited predictive power, and cannot identify which patients are going to carry it out[31,32]; hence, the investigator effort unfolded in the search for biological markers having greater predictive value, and in the expression of models that make it possible to understand the interactions between the clinical, psychosocial, genetic and biological factors[31].

CLINICAL CASE

The case of four patients belonging to the same phratry of eight siblings, seen repeatedly in the Hospital Ramón y Cajal (Madrid) due to suicide attempts, is presented. Table 1 reports the personal backgrounds of these four cases as well as the psychiatric diagnoses given.

The family and social report documents a very impoverished economic and cultural origin. The parents, from the rural setting, with a low socioeconomic level, emigrated to Madrid before the birth of their children. Since then, they have lived in a very depressed urban area with high rates of delinquency. The family climate has been marked by aggressivity and negligence in the care of the children, who grew up separately living in different institutions. Thus, the siblings did not maintain any relationship between them until 13-14 years. The cultural level in the family is also very low, with a history of analphabetism and incomplete schooling. Different members of the phratry began consuming different toxic agents early and, at the same time, a history of aggressivity and delinquency is documented in the family tree.

TABLE 1. Personal backgrounds and psychiatric diagnoses

Patient 1, male, 45 years old, single	*Patient 2, woman, 43 years, married twice*	*Patient 3, male, 39 years old, single*	*Patient 4, male, 32 years old, single*
Consumer of alcohol and cannabis, 8 suicide attempts (some while admitted to a psychiatric center), 4 visits to Emergency Services between 1996-1997 Alcohol dependence, personality disorder, bordeline IQ	8 psychiatric admissions due to psychotic symptoms, 6 suicide attempts, 8 visits to Emergency Services during 1995-1997 Schizoaffective disorder	Consumption of cannabis and cocaine, 17 admissions, 8 suicide attempts, bullet wound, period in prison, 30 visitis to Emergency Services Schizophrenic disorder	Consumer of cannabis, heroin and cocaine (since 16 years), 6 admimssions for detoxification, 9 due to suicide attempts, 11 suicide attempts (self immolation, intake of foreign bodies, of elevated doses of carbamazapine), stay in prison (up to 3 years), 24 visits to the Emergency Services Antisocial disorder of the personality

Figure 1 shows a brief genogram, with the psychiatric backgrounds, of toxic consumption and suicidal behavior. The upper row (1) corresponds to the grandparents of the cases presented, the one immediately below (2) to the parents and uncles and aunts, the third level (3) represents the phratry of eight siblings, and the lower level (4) shows the sons and nieces and nephews of the patients.

As can be seen, the genogram is sufficiently explicit. In the first generation (grandparents), 75 % are alcoholics, and in the second one (parents and aunts and uncles), 66 %. A total of 75 % of the phratry members chosen have a background of suicidal behavior, in some cases severe and repeated. A total of 50 % of the siblings have received some psychiatric diagnosis (from axis 1 or 2) and 25 % of the cases have a documented history of drug consumption and seropositivity to HIV. In all, 42 % of the members of this genealogy have psychiatric background. Interestingly, 43 % of the spouses have also received some type of psychiatric diagnosis, which was alcohol dependency in 25 % of the cases.

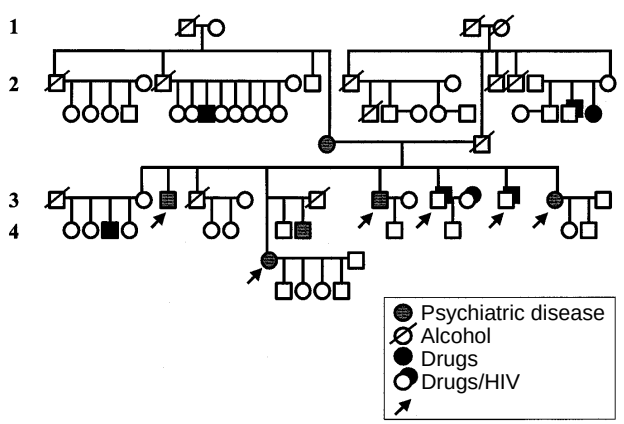

Figure 1. Genogram.

DISCUSSION

The case presented offers the opportunity to discuss some interesting features related with suicidal behavior. In the first place, it makes it possible to see the significant use of health care resources that this means and the deterioration of the quality of life associated to it. At the same time, the important prevalence of re-attempted suicides found in our series stands out. This extreme coincides with the conclusions of several authors[2,33-37], for whom previous attempts represent a predictor of high risk of consummated suicide.

In the series of cases presented, the high weight of the family factors in the development of suicidal behavior is observed and offers the opportunity to question if that which is transmitted in the family is an environment factor, vulnerability to suffer a psychiatric disorder, or a specific predisposition to suicidal behavior. Suicide, as is shown by the family studies[37-43] and as in many other disorders in psychiatry, tends to be transmitted in a family way, so that a family history of suicide very significantly increases the risk of suicidal behavior. This fact may have three possible explanations[44]: *a)* genetic transmission of psychiatric disorders that predispose to suicide —especially, affective disorders; *b)* transmission of a specific genetic vulnerability for suicide regardless of the psychiatric diagnosis; *c)* a psychological factor of being communicable or imitation, so that one member of the family who commits suicide may serve as a model for his/her family members.

It has been possible to discard this last possibility in several studies on twins and adoption[42,45-51]. In our series, the circumstance that the members of this phratry were not subjected to the same growing-up environment during the first years of life is also produced, although, in turn, it makes us think about the impact of early institutionalization. The possibility that what is transmitted is not a genetic factor but rather psychological one[52], as, for example, the fact that the suicidal twin constitutes a model of identification for the survivor, has

been discarded in studies that do not find a greater frequency of suicide attempts among surviving monozygotics (who maintain a closer social proximity to the deceased) than between dizygotics, as well as in papers that do not stress a prevalence of increased suicide in the twins who have lost a sibling due to a cause of death other than suicide[53].

Some studies have also concluded that what is transmitted is not a predisposition to suffering a psychiatric disorder[54,55] and using the Danish adoption registry, Schulsinger et al.[49], concluded that the suicide cases were quite independent from the presence of psychiatric disorders. In our series of cases, the scarce existing homogeneity between the psychiatric diagnoses assigned to the four siblings is significant, as if the categorial definition did not succeed in including the spread-out of problem-behaviors.

This hypothetical specific genetic factor for suicide that is added to psychiatric disorders may be related with personality features linked to impulsivity and aggressivity[56-58]. In the cases presented, together with the large number of suicidal backgrounds, the important prevalence of criminal behaviors and diagnoses related with the impulse control disorders stand out.

On the other hand, the family history of positive suicide has been related by different authors[59,60], with violent and repeated suicide attempts, an extreme that can also be confirmed in our data.

Investigation or the inheritability of suicidal behavior is not easy. One of the obstacles of the family studies consists in the tendency of the psychiatric patients to choose persons with some type of psychopathology as a partner, which favors the concentration of psychiatric disorders in the same families. This tendency can be seen in the genealogy presented, in which a high percentage of the spouses of the phratry members were also carriers of a predisposition to the development of psychic disorders.

In any case, the high percentage of monozygotic twins discordant for suicidal behavior found in the studies suggests that the action of the genes does not completely explain its etiology, and makes it necessary to consider the influence of environmental and sociocultural factors. The impact of these factors is undeniable in the cases that we present, with a family and social surrounding that includes a large number of psychosocial markers of suicide risk (toxic agent consumption, unemployment, delinquency, school drop-outs, etc.). In this multifactorial etiology context, the existence of models that make it possible to clarify this interaction between genes and environment is essential[61]. We can conclude by stating that suicide is a very important problem in our societies due to its prevalence, morbidity-mortality, incapacity and deterioration of the level of life associated to it and due to the economic costs it causes. At the same time, it makes up a challenge to psychiatric investigation of markers that make it possible to predict suicide risk and to plan adequate preventive strategies.

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