## G3 Epidemiological Study of SIDS in an Apulian Population

*Nunzio Di Nunno, MD*, and Luigi Vimercati, MD, Sezione di Medicina Legale, Dipartimento di Medicina Interna e Medicina Pubblica, Università degli Studi di Bari, Policlinico, Piazza G. Cesare n. 11, Bari, Italy; Barbara Boninfante BSc, Dipartimento di Scienze Statistiche, Facoltà di Economia e Commercio, Università degli Studi di Bari, Italy; and Francesco Vimercati, MD, Sezione di Medicina Legale, Dipartimento di Medicina Interna e Medicina Pubblica, Università degli Studi di Bari, Policlinico, Piazza G. Cesare n.11 Bari, Italy*

This work investigates the trend of sudden infant death syndrome (SIDS) in the period from 1970 to 1999, as shown in the case series documented by the Legal Medicine Section of the Department of Internal Medicine and Public Medicine (DIMIMP) of Bari University Hospital. The goal of the study was to assess whether the epidemiological data on SIDS have changed over time and how data compare with those in the literature.

In recent years the number of cases of SIDS seems to have dropped, but although this positive result can be attributed to the efforts of the scientific community in terms of the progress made in pediatric medicine and neonatal care, no etiopathogenetic hypotheses have yet been formulated that can individuate all the causes of the syndrome. In 1997 the death rate in the industrialized world ranged from 0.17 in Holland to 1.12 in Australia. Despite the low incidence of SIDS, it is a real social problem because no precise cause of the death can be referred. The parents and family are unable to accept the diagnosis of "unexplained" death of the infant and tend to impute responsibility to third parties, especially the doctors. The main difficulty in nosographic classification of SIDS is due to its peculiar diagnosis by exclusion, defined by Marie-Dapena and Marion Willinger as "Sudden death in infancy unexplained after review of the clinical history, examination of the circumstances of death and postmortem examination".

The present work analyses the records of autopsy of infants who died between 1970 and 1999, reviewed by the Legal Medicine Section. After excluding all cases in which the cause of death was identified (ascertained responsibility of medical staff, maltreatment, homicide, congenital anomalies, infectious diseases, etc.), a total of 63 cases of SIDS (31 M, 32 F) were found. In these, autopsy and histological examinations had not revealed any organ disease such as to cause death but only aspecific signs, that could have been correlated to the final outcome or were chance findings, such as: acute polyvisceral stasis (45%), pulmonary congestion (30%), petecchiae at the level of the serosa (26%), pulmonary edema (25%), cerebral edema (20%), hypertrophy of the thymus (10%).

The distribution of the 63 cases of SIDS by calendar month showed that the highest number of deaths (43) occurred in the months of February, March, April, and December, although there was no significant relationship with seasonal affections of viral or influenza type. Distribution by age demonstrated that 51 deaths occurred in the first six months of life and only 12 from the sixth to the twelfth. Analysis of the national trend of infant mortality in the same period identified two different periods: from 19701980 the infant mortality rate in Italy ranged from 19 to 36.3% and 51 of the deaths in the authors' sample occurred, featuring peaks of 9 deaths in the years 1970 and 1973. From 1981 to 1999, instead, the infant mortality rate in Italy ranged from 7 to 18 and 12 SIDS occurred in this sample.

The population was therefore subdivided into 2 groups for statistical analysis: SIDS between 1970 and 1980, and SIDS between 1981 and 1999. The $\chi 2$ test showed that there was no statistically significant difference in age distribution between the two groups (p=0.43; $\chi 2$ 10.08), nor in distribution by calendar month (p=0.76; $\chi 2$ 6.25). The results confirm the hypothesis that SIDS is a multifactorial affliction. They also confirm that study of this syndrome is conditioned by circumstantial factors, such as a progressive reduction of autopsy orders for suspected SIDS.

**SIDS, Autopsy, Postmortem Examination**

 ** Presenting Author*