SLEEP APNEA AND THE SUDDEN INFANT DEATH SYNDROME (SIDS)

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SIDS is the main single cause of death during the first year of life subsequent to the postnatal period.Retrospective epidemiologic studies have clearly substantiated SIDS victims as a heterogenous group of infants:
1.Infants dying from a severe disorder only diagnosed at autopsy sufficiently explaining the sudden death.
2. Infants with minor infections mainly of the upper respiratory tract, unlikely to be the only cause of death. 3. Infants in which no disorder has been detected either pre- or postmortem. In cases of group 2 and 3 disturbances of neuronal respiratory control mechanisms during sleep have most likely to be regarded as the cause of death and there is increasing evidence from both physiological and anatomical studies that chronic hypoxia due to recurrent sleep apnea or hypoventilation probably already beginning in the neonatal period precede the fatal event.
3 cases, one near miss for sudden infant death case and 2 victims of SIDS will be presented, who were subjects of a prospective study and had therefore been extensively investigated before the event. Compared with our normative data, both infants had severe and abnormal sleep apnea in the newborn period. Our data seem to support the hypothesis that there is a connection between the amount, the duration and the type of sleep apnea on one hand and near miss for SIDS or SIDS events on the other on the basis of pathophysiological developmental mechanisms of the neuronal control of breathing during sleep.
There is growing evidence that risk scores including polygraphic data in the newborn period will finally enable us to select infants with an increased SIDS risk for adequate home monitoring.

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0300-5577/82/0102-0010 $ 2.00