

parental involvement in children's admissions of essential value.

**Conclusion:** We use protocols that can help detect complications in an early stage after liver transplants.

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### HOW DO PARENTS EXPERIENCE THE DEATH OF A TWIN IN THE PERINATAL/ NEONATAL PERIOD?

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**Background and aim:** Mortality rates are higher in twin than singleton pregnancy, therefore proportionally more parents of twins face the tragedy of bereavement. Perinatal death is a painful experience for any parent. For parents who lose a twin their experience is additionally complicated by the need to grieve for one baby and celebrate the life of the other. This study sought to describe the lived experience of parents. Understanding the experience may help health care professionals to provide care that is appropriate, timely and meet the parents' needs.

**Methods:** A phenomenological approach was utilised. Semi-structured interviews were conducted with seven parents, whose time since death ranged from six months to six years. Interviews were audio-taped, transcribed and analysed. A second interview sought to validate the findings. The findings are presented as a rich description of the lived experience.

**Results:** Loss of a twin is a complex experience. Parents experienced feelings of sadness, isolation, 'being robbed', difficulty in separating as evidenced by retention of the ashes, ambivalence in both living the loss of one twin and parenting the survivor and ambivalence by others towards the parent's loss. Time, space and energy must be negotiated in order to grieve. Timing of information and support is crucial to the parent, counselling in the immediate period post loss is felt by many parents to be intrusive.

**Conclusions:** Parents ask for a parent-centred as opposed to professional-centred approach to care. This would help parents prepare for the emotional journey resulting from their loss.

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### RISK OF CONGENITAL HEART DEFECTS FOR CHILDREN CONCEIVED FOLLOWING ASSISTED REPRODUCTIVE TECHNOLOGIES. A POPULATION BASED EVALUATION

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**Background:** Children conceived after ART have higher risks for adverse birth outcomes. Insufficient data exist regarding the specific risk for CHD.

**Objective:** To estimate the risk associated with Assisted Reproductive Technologies (ART) for congenital heart defects (CHD), CHD without chromosomal abnormalities and CHD subgroups defined based on anatomo-embryologic criteria.

**Methods:** We used data from the Paris Registry of Congenital Malformations on 5,599 cases of CHD and 3,985 malformed controls including a heterogeneous group of malformations for which no known associations with ART were reported in literature. ART included inductors of ovulation only, in vitro fertilization and intracytoplasmic sperm injection.

**Results:** Exposure to ART (all methods combined) was higher for cases than controls (4.7% vs. 3.6%,  $p=0.008$ ) and was associated with a 40% increase in the maternal age, socioeconomic factors and year of birth-adjusted odds of CHD without chromosomal abnormalities (Adjusted-OR 1.4, 95%CI 1.1-1.7). ART was specifically associated with significant increases in the odds of malformations of great vessels and outflow tracts (Adjusted-OR 1.7, 95%CI 1.2-2.4), of anomalies of atria and atrial septal defects (Adjusted-OR 1.8, 95%CI 1.1-2.8) and of conotruncal CHD and double outlet right ventricle (Adjusted-OR 1.7, 95%CI 1.1-2.7). In general, we found specific associations between methods of ART and subgroups of CHD.

**Conclusion:** Risk of CHD was higher in children exposed to ART as compared to malformed

controls. This association seems to vary according to the method of ART and type of CHD and may be due to ART per se and/or the underlying infertility of couples.

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**RANDOMIZED TRIAL OF HIGH-FREQUENCY OSCILLATORY VENTILATION VERSUS CONVENTIONAL VENTILATION: A 3 YEAR FOLLOW-UP**

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**Background:** The long term outcome of children enrolled into neonatal trials designed to compare the effects of high frequency oscillatory ventilation (HFOV) versus conventional ventilation (CV) has been rarely studied.

**Objective:** To assess respiratory, growth and neurodevelopmental outcomes at 3 years of age in infants born at GA  $\leq$ 30 weeks enrolled in a randomized controlled trial designed to compare the short term respiratory outcomes of HFOV versus CV.

**Methods:** Surviving infants (35/40) were followed until 3 years of age and evaluated for health history, growth and neurodevelopmental outcome.

**Results:** All the survivors of the original cohort were assessed in the follow-up at a mean age of 36.9  $\pm$  3.6 months. Between HFOV (n:19) and CV (n:16) group there were no differences in the frequency of hospital readmissions, pulmonary illness and growth; no statistically significant differences were detected in major cranial ultrasound abnormalities (31.6 vs 37.5%), cerebral palsy (15.8 vs 12.5 %), major neurosensory impairment (10.5 vs 6.3%), IQ scores (94.8  $\pm$  18.8 vs 96.4  $\pm$ 12.8) and behavioural abnormalities (26.3 vs 31.2%).

**Conclusions:** In our cohort the early use of HFOV compared to CV has no impact on respiratory, growth and neurodevelopmental morbidity at 3 years of age.

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**QUALITY OF EARLY MATERNAL INTERACTION PREDICTS COGNITIVE DEVELOPMENT AT 2 YEARS IN INFANTS BORN VERY PRETERM.**

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**Aims:** To test the hypothesis that quality of early maternal interaction impacts on later neurobehavioural development in infants born very preterm.

**Methods:** Participants were 199 infants born before 32 weeks gestation who had participated in a video-taped, standardised assessment of mother infant interaction at 3 months corrected age. (Nursing Child Assessment Teaching Scale -NCATS). Mothers also completed the Parenting Stress Index self-report. Infants' cognitive (MDI) and motor (PDI) performance was assessed at 2 years corrected age using the Bayley Scales of Infant Development-II. Follow-up data were available for 96% of infants (n=191).

**Results:** Mean MDI score was 92.03 (SD 19.03) with 34% classified as delayed (score < -1SD). Stepwise regression analysis with MDI scores as the dependent variable found that higher age-standardised scores for cognitive development were associated with fewer days ventilated in the neonatal unit (p < 0.001), female gender (p=.001), more sensitive, growth fostering and responsive maternal behaviours as measured by NCATS (p=0.003), lower scores for self-rated, parent-child dysfunctional interaction (p=.001) and higher level of maternal education (p=0.047). These variables accounted for over a third of the variance in MDI scores (adjusted r<sup>2</sup> = 0.36). Gestational age, number of previous children, birthweight, maternal age, twin birth and material deprivation made no contribution. Repeating the analysis with PDI scores found that motor development was predicted by infant responsiveness to interaction but not by caregiver's NCATS score.

**Conclusions:** This prospective study found both objective and self-rated quality of maternal interaction predicted later neurobehavioural development suggesting a potentially important target for intervention.