BIRTH WEIGHT IN RELATION TO SPERM PARAMETERS IN IDIOPATHIC SUBFERTILE MEN
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Introduction: Environmental factors and body composition may affect fertility. Foetal programming of metabolic diseases is a well-established concept but little is known about maternal prenatal environment and fertility of the offspring. As it is difficult to retrospectively assess in utero nutrition, birth weight may be used. Few animal studies have demonstrated that abnormal fetal growth is associated with impaired gonadal development.

Material and methods: Data from 53 men recruited within the ALIFERT study (biomedical research P071224) were recorded. They were partners of subfertile couples, presented a primary idiopathic infertility, attending our infertility centre. Anthropometric parameters were measured. Blood samples were obtained for metabolic dosages. Semen samples were collected, conventional semen parameters were assessed and sperm DNA fragmentation was measured with TUNEL assay.

Results: Birth weights in our population ranged from 2500g to 4500g (mean: 3457g). Birth weight inversely correlated with total sperm count (p=0.0034) after adjustment for age and tobacco. Also a significantly positive association was observed between birth weight and LDL cholesterol (p=0.046).

Discussion: We present the first study demonstrating a significant association between male birth weight and total sperm count in a population of idiopathic subfertile men. Some data in women showed that high or low birth weights were associated with an increase of time to pregnancy. These results underline the importance of the in utero environment for male reproductive functions. Little is known about prenatal causes of subfertility and epidemiological studies are necessary to assess the impact of maternal nutrition on offspring fertility and to understand mechanisms.