**MTHFR** polymorphisms C677T and A1298C and associations with IVF outcomes in Brazilian women

Priscila Queiroz D’Elia a,*, Aline Amaro dos Santos b, Bianca Bianco b,c, Caio Parente Barbosa b,c, Denise Maria Christofolini b,c, Tsutomu Aoki a

Abstract  The aim of this study was to investigate the association between **MTHFR** gene polymorphisms and IVF outcomes in Brazilian women undergoing assisted reproduction treatment. A prospective study was conducted in the Human Reproduction Department at the ABC University School of Medicine and the Ideia Fertility Institute between December 2010 and April 2012. The patient population was 82 women undergoing assisted reproduction cycles. The **MTHFR** polymorphisms C677T and A1298C were evaluated and compared with laboratory results and pregnancy rates. The C677T variant was associated with proportions of mature (P = 0.006) and immature (P = 0.003) oocytes whereas the A1298C variant was associated with number of oocytes retrieved (P = 0.044). The polymorphisms, whether alone or in combination, were not associated with normal fertilization, good-quality embryo or clinical pregnancy rates. This study suggests that the number and maturity of oocytes retrieved may be related to the **MTHFR** polymorphisms C677T and A1298C.