INTRODUCTION

With the introduction and establishment of intracytoplasmic sperm injection (ICSI) in assisted reproductive technology, subsequent fertilization and implantation rates, even in couples with severe male infertility can be achieved ***(Palermo et al., 1992 and Van Steirteghem et al., 1993)***.

The outcome of ICSI treatment is not only affected by patient parameters but also by embryo variables ***(Serhal et al., 1997)***. The occurrence of specific cytoplasmic dysmorphic phenotypes in oocytes has been suggested to reflect intrensic defect that may negatively influence oocyte competence ***(Van Blerkom and Henry, 1992 and Xia, 1997)***. Since oocytes are denuded for ICSI shortly after retreival, the occurrence of specific cytoplasmic defects in mature oocytes can be determined prior to injection and the resulting injected oocytes classified on the basis of morphological criteria detectable at the light microscope level. Metaphase II oocytes with apparently normal cytoplasmic organization may exhibit extracytoplasmic characteristics such as increased perivitelline space, perivitelline debris and/or fragmentation of the first polar body which have also suggested to reduce the developmental competence of the oocyte involved ***(Xia, 1997 and Hassan-Ali et al., 1998)***.

It is not uncommon for extracytoplasmic and cytoplasmic dysmorphisms to occur together in the same oocytes ***(Van Blerkom and Henry, 1992)***. These authors suggested that the repetition of certain dysmorphic phenotypes during stimulated cycles might reflect a high frequency of aneuploidy related to ovarian stimulation as they reported seven cytoplasmic phenotypes and their cytogenetic, biochemical and metabolic characteristics.

Poor oocyte morphology has not been demonsrated to affect fertilization rate, embryo quality or implantation after ICSI ***(De Sutter et al., 1996 and Balaban et al., 1998)***, although there may be an increased incidence of early pregnancy loss in patients with a high frequency of dysmorphic oocytes ***(Alikani et al., 1995)***. In contrast to these studies, ***Xia (1997)*** reported a decresed fertilization rate and embryo quality in patients who had a higher number of oocytes with cytoplasmic inclusions in their cohort of oocytes. ***Serhal et al., (1997)*** reported a reduced pregnancy and implantation rates when embryo derived from dysmorphic oocytes were transferred. Also ***Ebner et al., (2002)*** reported that ICSI of oocytes with intact, well-shaped first polar bodies yielded a higher fertilization rates and higher quality embryos. Whether oocyte morphology and outcome of artificial reproduction techniques are related is difficult to determine since criteria for labelling oocytes as dysmorphic clearly vary from investigator to investigator ***(Meriano et al., 2001).***