Abstract

Objectives: The aim of this investigation was to evaluate the acrosome reaction by fluorescence microscopy and the flow citometry in a group of men with unknown fertility. Methods: Each individual gave a semen sample for the analysis of the calcium ionophore-induced acrosome reaction after the capacitation process, using lectin Pisum sativum aglutinina (fluorescence microscopy) and antibody anti-CD46 (flow citometry). Results: Five of out six individuals increased the number of the sperm with calcium ionophore-induced acrosome reaction versus the percentage of spontaneous acrosome reaction, using fluorescence microscopy (7.4 +/- 2.4 vs 22.5 +/- 10.1) and flow citometry (8.5 +/- 2.8 vs 25.4 +/- 6.0); On the other hand, the other individual the values of the acrosomal reaction with calcium ionophore A23187 were similar to those of the spontaneous reaction. Conclusions: Both techniques are useful to evaluate the in vitro capacity of the spermatozoa to undergo acrosomal reaction, after the capacitation, without fusion between the sperm and the egg, but the flow citometry is more objective and allow the detection of a higher cell numbers of cells. On the other hand, although the individual that did not respond to the stimulus with calcium ionophore has unknown fertility, the obtained results allow to propose that the evaluation of the acrosomal reaction could be a useful tool in the study of the men who consult for infertility.

Keywords
Spermatozoa, Acrosome reaction, Fertility, Calcium ionophore