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## Cumulus cell mitochondrial activity in relation to body mass index in women undergoing assisted reproductive therapy

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### Abstract

Most studies have considered the negative influence of obesity on fertility in both genders. In the present study, we assessed mitochondrial activity expressed as the mitochondrial potential index (MPI) in cumulus cells from obese women and women with a normal body mass index (BMI) during assisted reproductive therapy. The results revealed a significant reduction of MPI with increased body mass. The lower MPI levels in cumulus cells from obese women may reflect mitochondrial dysfunction caused by oxidative stress, which can affect the cumulus-oocyte complex and have an impact on oocyte development.

### 1. Introduction

Obesity is considered as one of the worldwide pandemic diseases and has important consequences for fertility. Maternal obesity frequently results in negative outcomes both for mother and child [1,2,3,4] thereby questioning how metabolic alterations affect oocyte and

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