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INTEGRATIVE SUPPORT FOR WOMEN UNDERGOING ART: MYO-INOSITOL AND MELATONIN COMBINED

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Context: Several factors can affect oocyte quality and therefore pregnancy outcomes in Assisted Reproductive Technology (ART). New evidence highlighted the importance of follicular fluid (FF) and oocyte quality as crucial factors contributing to outcomes of the ART treatment cycle. In particular, higher concentrations of Myo-inositol (MI) and Melatonin (Mel) have been found to be essential for optimal oocyte and embryo maturation and development.
Objective: Elucidate the effects of MI in combination with Mel in infertile women undergoing ART.
Methods: Reviews and meta-analyses of the literature regarding significant experimental studies and randomized controlled trials (RCTs).
Patients: Women with idiopathic infertility and patients undergoing ART.
Interventions: Supplementation with MI and Mel.
Main outcome measure(s): Oocyte and embryo quality in infertile women undergoing ART.
Results: Recent clinical evidence reports a synergic action of MI and Mel supplementation in improving female fertility due to poor oocyte quality and thus pregnancy outcomes in women undergoing ART procedures. In particular, MI, thanks to its role as an FSH second messenger, shows an improvement in oocyte quality during ovarian stimulation protocols. On the other hand, Mel demonstrates a pivotal role in oocyte maturation, regulating the production of progesterone as well as LH sensitivity. Furthermore, Mel's marked antioxidant activity is crucial for protection against oxidative stress and consequently increasing oocyte quality.
Conclusions: MI and Mel supplementation could represent an effective and safe method to support all infertile women undergoing ART procedures. In fact, this supplementation, enriching FF content, has been found to be effective, not only in improving ART outcomes but also in ovarian stimulation protocols by reducing the risk of ovarian hyperstimulation

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