

## **HOW TO PREDICT BAD PROGNOSIS PATIENTS**

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Assisted reproductive technology treatment is the most powerful step in the management of the infertile couple. Still, well timed transfer of morphologically normal embryos in the uterus only will allow one in three embryo's to implant and lead to a live birth. The patient factors that relate to the implantation chances for the embryo in its host are several. Female age, ovarian reserve, lifestyle factors, pelvic anatomy all will contribute to the outcome of the ART cycle.

Female age has shown to be the most consistent success factor. After the age of 32 years an undisputed decline in live birth rates can be observed from numerous reports. The causal factors here relate to ovarian reserve (OR) decline, affecting both numbers and, most of all, quality of oocytes. Within age classes, considerable variation may be present in ovarian reserve status. There is a strong desire for the clinician to assess the ovarian reserve for an individual woman in order to adapt treatment regimens or counsel on prospects. Ovarian reserve testing (ORT) therefore implies that the test adds information on top of knowing the woman's age. From a recently performed individual patient data (IPD) meta-analysis it has been demonstrated that ovarian reserve tests like AMH and AFC are capable of predicting poor and hyperresponders independently of female age. This predictive power may have implications for treatment. Unfortunately, predicting the outcome ongoing pregnancy from OR testing has shown far less successful. Prediction based on female age can hardly be improved by OR testing.

The question arises how OR testing can help us in management of the patient. OR test results should always be interpreted in relation to female age. Two issues frequently emerge: should we exclude patients or adjust the treatment based on results of OR testing? In older patients an OR test indicating poor ovarian response will justify refraining from treatment or at least counselling on poor prospects. In younger patients a predicted poor response may not be highly indicative of poor oocyte quality and ART prospects may not be as poor as frequently thought. In poor response predicted cases, hyperstimulation of the ovaries will offer additional information in a first IVF attempt. In so-called expected poor responders, the prospects for pregnancy in the current and subsequent cycle may be considered cumbersome for the whole range of age groups. This may justify counselling the patient on possible other treatment options like egg donation.