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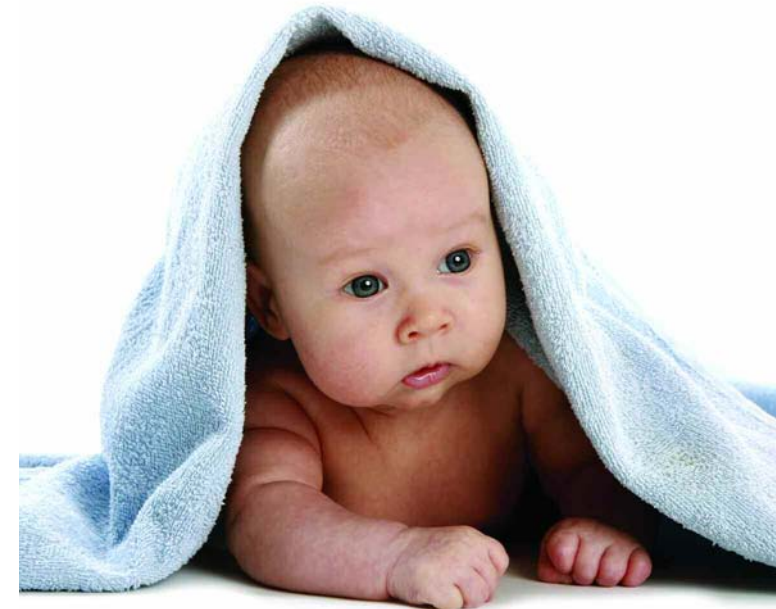
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Accurate Assessment of Ovarian Reserve



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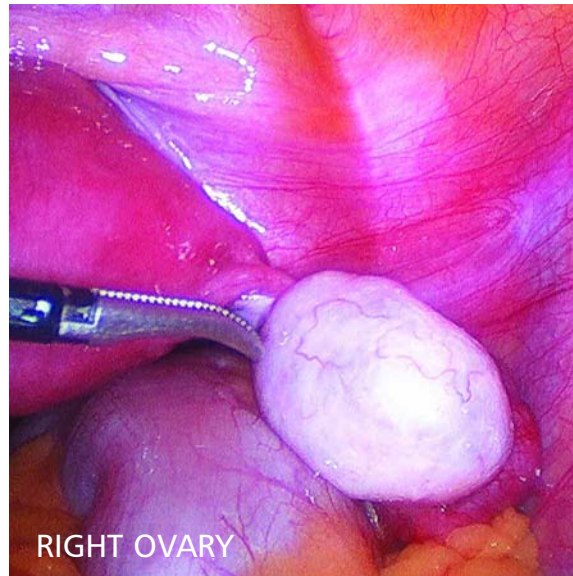
Accurate Assessment of Ovarian Reserve

The rising trend towards delayed parenthood is resulting in a greater number of women seeking conception at an older age. It has become very important to assess accurately the ovarian performance, as determined by the number of primordial follicles left in the ovary. Social habits, non-clinical and clinical factors have been shown to contribute to the decline of the follicle pool either directly or indirectly.

Chronological age is considered as a simple way of obtaining information on the extent of ovarian function, in terms of both quantity and quality. However chronological age cannot always be used as a surrogate of ovarian age. Various blood tests and ultrasound markers of ovarian performance have been employed in routine clinical practice to assess how the ovary works, but their accuracy is not optimal. Recently, measurement of anti-Müllerian hormone (AMH) levels has been proposed by Mr Luciano Nardo and other researchers as marker of ovarian follicular reserve. Several studies have suggested that AMH concentrations are highly correlated with the

number of antral follicles and reflect the ovarian reserve better than other known clinical markers such as day 2-3 follicle stimulating hormone (FSH), inhibin B and oestradiol (E_2). Unlike AMH, these hormones are subject to cycle-to-cycle fluctuations.

Anti-Müllerian hormone is expressed in both sexes at different stages of development and it is best understood for its role in fetal sex differentiation. In females, AMH is not detected before 36 weeks of gestation and is produced throughout reproductive life. Anti-Müllerian hormone is secreted by the granulosa cells of small antral follicles in the ovary.



It is known that AMH levels reflect the number of selectable follicles during the early follicular phase. Low levels suggest a reduced ovarian follicle pool and poor ovarian prognosis.

A quantitative measurement of ovarian ageing may also be obtained by ultrasound assessment of the number of small antral follicles measuring between 2-6mm. Like AMH, antral follicle count (AFC) correlates significantly with ovarian performance and is highly predictive of clinical pregnancy in women undergoing in-vitro fertilisation.

While baseline FSH remains a screening ovarian reserve tests, AMH and AFC are diagnostic markers with greater precision than anything else available, and they should be requested as diagnostic tests in many areas of women's health, including puberty, polycystic ovary syndrome (PCOS), subfertility and premature menopause. The appropriate use of these markers, which lead to accurate information, is of paramount importance when counselling, referring for and planning treatments.