INTRODUCTION AND AIM OF WORK

Introduction

Despite improvements in both diagnostic assessment and treatment of infertile couples, many couples still have no explanation for their infertility (Isaksson and Tiitinen, 2004).

Infertility is said to be idiopathic or unexplained when a couple does not conceive and no definite cause of infertility can be diagnosed after a complete evaluation (Aboulghar et al., 2003).

Unexplained infertility refers to a diagnosis made in couples in whom standard investigations including semen analysis, tests of ovulation and tubal patency are normal. It has been suggested that the term unexplained infertility is unsustainable, as conditions such as endometriosis, tubal infertility, premature ovarian ageing and immunological infertility tend to be misdiagnosed as unexplained infertility (Siristatidis and Bhattacharya, 2007).

Up to 30% of infertile couples have unexplained infertility. This diagnosis is made only after the basic infertility evaluation fails to reveal an obvious abnormality. Therefore, unexplained infertility appears to represent either the lower extreme of the normal distribution of fertility, or it arises from a defect in fecundity that cannot be detected by the routine infertility evaluation (Alabama, 2006).

The exact etiology of unexplained infertility is unknown, but several possibilities have been proposed. Subtle changes in follicle development, ovulation and the luteal phase, as well as sperm concentration and motility at the lower end of the normal range, have been reported in some couples with unexplained infertility (Demir et al., 2007).

Unexplained infertility is a diagnosis of exclusion, and up to 25% of patients who present for investigation in a reproductive medicine clinic are diagnosed with unexplained infertility. Ideally, the diagnosis would specifically identify couples with real but subtle defects in reproductive function that are not detected by available methods (Hart, 2003).

Such a diagnosis should then only be reached if all appropriate diagnostic tests were performed and have failed to detect one or more presumed causes for a couple's infertility (Gleicher and Barad, 2006).

The diagnosis of unexplained infertility always includes some fertile couples who have been unable to conceive by chance alone as well as couples with real but undetectable defects in reproductive capacity. The relative proportions of these two populations must be considered carefully in evaluating the results of empiric therapy. These proportions will vary with the protocol used to diagnose unexplained infertility (Kim and Hornstein, 1997).

The diagnosis of unexplained infertility is highly subjective. It is dependent on which diagnostic tests have been performed and at what level of quality. A diagnosis of unexplained infertility will, therefore, be more often reached if the diagnostic workup is incomplete or of poor quality (Jose-Miller et al., 2007).

Radojčić et al., (2004) stated that autoimmune processes and mechanisms are considered as contributing factors in some cases of unexplained infertility in both men and women.

The development of molecular biology and genetics has become very important for the study, diagnosis and assessment of couples, many of them considered until now as "unexplained infertile couples" as there are likely genetically based abnormalities that affect the cellular mechanics of the sperm and/or egg (Brugo-Olmedo et al., 2001).

Because of the obvious unreliability of a diagnosis of unexplained

infertility and the widely reported diagnostic criteria, Better efforts to reach infertility diagnoses more accurately should improve the diagnostic accuracy of frequently missed diagnoses, which often falsely have led to a diagnosis of unexplained infertility (Adamson and Baker, 2003).

In spite of intensive investigations, some cases of infertility will continue to remain ‘undiagnosed’ or ‘unexplained’. It may not be in the best interests of patients to be subjected to invasive and expensive tests in order to satisfy scientific curiosity (Siristatidis and Bhattacharya, 2007).

Duration of infertility and a previous history of pregnancy are important in predicting the likelihood of pregnancy in women with no obvious cause for their infertility (unexplained) (Akande et al., 2004).

The duration of infertility is probably the most important factor in eliminating fertile couples and subfertile couples with the best chance of conception from the unexplained infertility group. Fertile couples who have been unable to conceive by chance alone will eventually conceive, usually within 3 years. The duration of unexplained infertility must therefore be carefully considered in evaluating the results of empiric therapy. Such therapy will be more successful in a group with infertility of 1 year's duration than in a group with infertility of more than 5 year's duration (Akande et al., 2004).

Unexplained infertility is a common clinical problem for which there is no standard treatment protocol (Goverde et al., 2000). Nevertheless, numerous empiric treatments have been investigated with the goal of increasing the monthly probability of pregnancy and thereby reducing the time interval required for conception by couples with this diagnosis who, for therapeutic purposes, are considered subfertile (Zayed and Abu-Heija, 1999).

Unexplained subfertility continues to pose some difficulty in management principally because of the lack of a specific, and potentially

treatable abnormality and the treatment is generally empirical (El-Toukhy, 2002).

It has not yet been determined which empiric therapies offer the most hope for these couples (Adamson and Baker, 2003).

Because there is no apparent cause, unexplained infertility may be difficult to treat successfully. Lacking a specific treatment, little can be gained from modifying dosage or choosing different pharmaceutical preparations, and treatment plan strategies are limited. Usually treatment begins with a low tech, low cost approach, but when such treatment fails, the next treatment decision is troublesome (Collins, 2003).

Also Collins, (2003) suggested that the treatment of unexplained infertility remains empiric and has as its goal increasing the monthly probability of pregnancy and reducing the interval required for conception.

Unexplained infertility is not an absolute condition but rather a relative inability to conceive and many of these couples may conceive without treatment. If treatment needed the treatment options are several and the results are promising (Isaksson and Tiitinen, 2004).

Although unexplained infertility may represent the inability of the present diagnostic tests to identify a potential cause, alternatively it may signify a lack of understanding of some of the reproductive process. Therefore, treatment is empiric by definition (Gnoth et al., 2005).

The chances of conceiving spontaneously must not be ignored when defining an infertility treatment, especially in cases of unexplained infertility (Leridon, 2005).

Jose-Miller et al., (2007) stated that unexplained infertility may be managed with ovulation induction, intrauterine insemination, or both. The overall likelihood of successful pregnancy with treatment is nearly 50 percent.

Aim of work

To study causes of unexplained infertility and to detect modern methods of investigations and management.