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Original article

Male infertility: An audit of 70 cases in a single centre



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Abstract

Objectives: To audit the aetiology, treatment and predictors of outcome in infertile men who attended urology clinic of a private hospital in Lagos, Nigeria.

Patients and Methods: A ten-year retrospective review of all male infertility cases managed in our facility. Data on the demography, presentations, clinical findings, aetiologies, investigations, treatments and outcomes of all patients seen over the study period were retrieved and analyzed.

Results: A total of 70 married men were managed for male factor infertility with mean age of 35.6 years. Forty-four (62.9%) had primary while 26 (37.1%) had secondary infertility. The commonest aetiology of male infertility was varicocele in 53 (75.7%) followed by testicular atrophy in 9 (12.9%) patients. Varicocelectomy was done in 52 (74.3%), vaso-vasostomy in 3 (4.3%) and medical therapy in 15 (21.4%) of the patients. There was significant difference between the mean pre- and post-treatment sperm concentration and motility. Following treatment, sixteen (22.9%) and 31 (44.3%) patients had improvement in their sperm concentration and motility respectively out of which 13 (18.6%) achieved pregnancy. The mean post-treatment sperm concentration and motility in those who achieved pregnancy were 35.7 millions/ml and 68.5%, respectively. In those who had varicocelectomy, the sperm concentration and motility were increased in 34 (77.3%) and 23 (53.5%), reduced in 4 (9.1%) and 11 (25.6%) and unchanged in 6 (13.6%) and 9 (20.9%), respectively. All the patients who achieved pregnancy were those who had varicocelectomy representing 25% of those patients who had varicocelectomy.

Conclusion: Varicocele represents the most common treatable cause of male factor infertility and treatment is accompanied with improved seminal fluid parameters as well pregnancy rate. Post-treatment sperm concentration and motility were the only factors that could predict the possibility of achieving pregnancy.

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Introduction

Infertility is a disease of the reproductive system defined by the failure to achieve a clinical pregnancy after 12 months or more of regular unprotected sexual intercourse. Clinical pregnancy on the other hand is a pregnancy diagnosed by ultrasonographic visualization of one or more gestational sacs or definitive clinical signs of pregnancy, including ectopic pregnancy [1]. Primary infertility is when a woman has never conceived despite cohabitation, exposure to pregnancy, and the wish to become pregnant for at least 12 months, whereas, secondary infertility is when a woman has previously conceived but is subsequently unable to conceive despite cohabitation, exposure to pregnancy, and wish to become pregnant for at least 12 months. If the woman has breastfed a previous infant, then exposure to pregnancy should be calculated from the onset of regular menstruation following delivery [2]. Once thought to be the disease of women, it is now clear that cause(s) of infertility in couples can be found in the male partner, female partner, both partners or neither partners (unexplained infertility) [3]. Infertility is a global reproductive health problem, however, its burden is higher in developing countries. Apart from the fact that more infertile couples live in the third world, infertility in this region is associated with more social stigmatization, derogatory names, economic challenges (both from the cost of managing the disease and the cost of assisted reproductive technology) and divorce [4]. Compared to the western world, infertile couple in the third world feel a deeper sense of shame, guilt, worthlessness, depression and loss of inheritance especially in areas where there is belief that once names will soon be forgotten after death [5,6].

About 15% of couples do not achieve pregnancy in one year thereby seeking medical therapy [7]. In African societies, women are often blamed for infertility and are usually left on their own to seek for solution from many sources ranging from spiritual to orthodox [8,9]. Studies in our environment have shown that male factor could account for nearly 50% of infertility cases [3,10]. The contribution of male factor to infertility may even be underestimated in our environment as many men would not seek medical help due to poor education, cultural beliefs and male chauvinism [11].

The objective of this study is to audit the aetiology, outcome and predictors of outcome in infertile men who attended urology clinic of a private hospital in Lagos, Nigeria over a ten-year period.

Patients and methods

This is a retrospective study of 70 patients who were managed for male factor infertility at the urology clinic of Lagoon hospital Apapa, Lagos over a 10-year period between January 1999 and December 2008. Most of our patients presented by themselves with complaint of infertility due to high level of literacy in our patients. Lagoon hospital is a specialist-based health institution located in the southern part of the cosmopolitan city of Lagos with a clientele comprising of middle and low-income working class. Approval for the study was obtained from the Research and Ethics Committee of the hospital. Semen analysis was done using the WHO manual, fourth edition [1999]; varicocele was diagnosed clinically and confirmed by Doppler Ultrasound (USS) of the scrotum; vas obstruction was diagnosed with vasography; testicular atrophy was diagnosed clinically and was confirmed with ultrasound scan as total testicular volume less than 30 ml and also by testicular biopsy. Testicular biopsy was done only in those with azoospermia. Data on

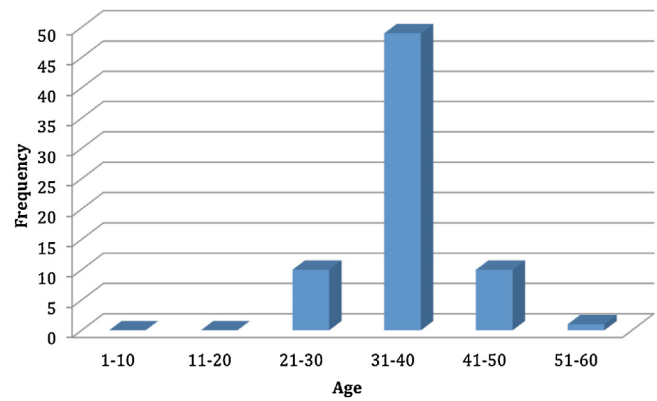


Fig. 1 Age distribution of patients.

the demography, presentations, clinical findings, aetiology, investigations, treatments and outcomes of all patients seen over the study period were retrieved from the case notes and analyzed using Statistical Package for Social Sciences version 21. Results were presented in tables using simple proportion and comparison were made between various means using paired sample *t*-test with the level of significance set at *p*-value of <0.05.

Results

A total of 70 married men were managed for male factor infertility over the study period with the mean, median and range of patients' age being 35.6 ± 4.8 , 35.0, and 26–54 years respectively. The peak age incidence was 31–40 years comprising of 70% of all the patients managed during this period (Fig. 1).

Of the 70 patients, 44 patients (62.9%) had primary infertility while 26 (37.1%) had secondary infertility. The commonest identifiable pathology of male infertility in our study was varicocele in 53 patients (75.7%). Of these, 36 (51.4%) had bilateral varicocele, whereas, 17 (24.3) had unilateral varicocele. Unilateral varicocele was commoner on the left side, 15 (88.2%) compared to the right, 2 (11.8%). It occurred alone in 30 patients (42.9%), in combination with hormonal imbalance in 22 (31.4.0%) and in combination with vas occlusion in 1 (1.4%), followed by testicular atrophy in 9 (12.9%). Other aetiological factors include hormonal imbalance alone in 3 (4.3%), vasal obstruction alone in 2 (2.9%), chromosomal abnormality (XXY) in 1 (1.4%), dysfunction (retrograde ejaculation) in 1 (1.4%) and idiopathic in 1 patient (1.4%) (Table 1).

The pattern of hormonal analysis (testosterone, luteinizing hormone, follicle stimulating hormone and prolactin) of the patients revealed normal result in 49 patients (70%), primary testicular failure in 8 (11.4%), hyperprolactinaemia in 8 (11.4%) and androgen resistance in 1 patient (1.4%) (Table 2).

The sperm concentration at presentation was abnormal in 67 patients (95.7%), motility was abnormal in 45 (64.3%), both sperm concentration and motility were abnormal in 19 (27.1%), azoospermia was observed in 25 (35.7%), whereas, 2 patients (2.9%) had both normal sperm concentration and motility. The sperm concentration and motility ranged from 0 to 24 million/ml and 0–85% with mean of 4.3 ± 6.0 million/ml and $28.0 \pm 30.5\%$, respectively. Open varicocelectomy through an inguinal approach (Ivannisevich) was done in 52 (74.3%), vaso-vasostomy in 3 (4.3%) and medical therapy in 15 (21.4%) of the patients. Medical therapies given to the patients

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