Management of Male Infertility in Nigeria: Thinking outside the box

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Infertility is a reproductive health problem that affects many couples in the human population. Worldwide infertility is generally reported as occurring in 8-12% of all couples. Many reports indicate that infertility is the most frequent reason for gynaecological consultation in Nigeria [1-2]. The male factor was found to be responsible for the infertility in 42% of the subjects. Oligozoospermia and asthenozoospermia were the most common aetiological factors responsible for male infertility [3]. Although there is a general documented belief that the most common cause of infertility in Nigeria is infection [4], cases abound where infection have been treated without correction of infertility [5]. In view of the rising trend of male infertility in Nigeria, there is a need for reproductive health physicians to have an expansive approach in their diagnosis of male sterility.

Nigeria has about twelve million infertile persons [5]. In Nigeria there are higher rates of irreversible oligospermia or azoospermia than most other causes of infertility and less resources for the management of infertility [6]. Of adult couples in African countries, it is estimated that 10–25% are subfertile and of these subfertile couples female factors account for about 55% and male factors for about 30–40% of causes, while 5–15% of causes are unexplained [5]. In their study, Geidam et al 2008 [7] noted that 70.8 percent of men investigated for infertility had primary infertility and 75 percent had azoospermia, 66.7 percent had elevated follicle-stimulating hormone levels, while 50 percent had decreased testosterone levels. The majority (70.8%) of the patients in the study population were found to have primary infertility, which was similar to the study from the southeastern part of Nigeria, [3] and another study from a developed country [8]. However, a report from Ile-Ife in southwestern Nigeria showed a preponderance of secondary infertility [9].

Akinloye et al 2006 [10] study in a Nigerian population reported that high plasma cadmium level can be a cause of oligo-astheno-tetrazoospermia syndrome. Preliminary result of an ongoing study in Nigeria showed that 83.97% of the patients with history of herbal intake had abnormal seminal fluid analysis while only 16.03% of subjects with no history of herbal intake had abnormal result [11]. This gives a clue of the possibility of male infertility from Nigerian herbal remedies which has been reported to contain heavy metals [12].

Decreasing sperm counts are attributed to the deleterious effects of environmental contamination by heavy metals and estrogenic chemicals [13]. Some heavy metals like lead and cadmium could adversely affect the male reproductive system; either by causing hypothalamic-pituitary axis disruption or by directly affecting spermatogenesis, resulting in impaired semen quality [14]. Several metals especially lead and cadmium are considered reproductive toxicants and/or suspected endocrine disruptor compounds. Jurasovic et al; 2004 [14] have reported positive associations between blood cadmium concentrations and follicle stimulating hormone FSH and testosterone levels among men with no occupational exposure. Several studies have reported declines in semen quality associated with both lead [15] and cadmium concentrations in blood [16]. Other reports have shown an association between impaired sperm motility and cadmium and/or lead concentrations in sperm or seminal fluid [17].

In their investigations on whether heavy metal pollution affects semen quality in men, Giaccio et al. 2012 [18] concluded that Authorities responsible for public health should be aware of potentially insidious effects of environmental pollution on male fertility. Lead and cadmium may be implicated in male infertility in Nigeria. Educational, dietary interventions and inclusion of heavy metal diagnosis may be useful in the management of male infertility.

REFERENCES:


Orish Ebere Orisakwe PhD, ERT, FATS, FRSC: Prof Orish Ebere Orisakwe holds BSc honours degree (Biochemistry) and a PhD in Pharmacology & Toxicology of the University of Nigeria, Nsukka in addition to two masters degrees of the University of Lagos, Nigeria. At present, he is the Head of Experimental Pharmacology & Clinical Pharmacy department, Faculty of Pharmacy of the University of Port Harcourt, Nigeria. He is the first Nigerian to be admitted as a Fellow of European Registered Toxicologist ERT and the first African scientist to be admitted as a Fellow of Academy of Toxicological Sciences ATS, USA. He has been involved in training and mentorship in various Pharmacology and Toxicology programmes in many Nigerian universities. He is a mentor of International Federation of Science (Sweden) and Africa Education Initiative (USA based not for profit organization). He was coordinator of the African Society of Toxicological Sciences in Nigeria and presently the President of West Africa Society of Toxicology and an advisor of the Cameroon Society of Toxicological Sciences. A professor of Pharmacology & Toxicology has about two hundred peer reviewed scholarly publications with more than seventy cited in PUBMED and book chapters including those in Encyclopedia of Environmental Health. Prof Orish serves in the editorial and review boards of many journals in USA and Europe. In addition to many biographical references listings, he also serves as a Scientific expert of the Joint FAO/WHO Committee on Food Additives (JECFA) and Scoping Meeting for WHO Guidelines on the Prevention and Management of Lead Poisoning. Dr Orish has won several travel and research fellowships and the first African to win the Global Senior Scholar Exchange Program of the Society of Toxicology,USA. Prof Orish an accomplished symposium speaker has actively and successfully supervised five doctorate and many masters candidates. He is married to a medical doctor Mrs Chinna Orish and is blessed with four kids, Progress, Fortune, Goodness.