the male has a clinical varicocele. **Conclusions:** Despite the necessity for specific training in microsurgery, microsurgical varicocele repair, is the most promising treatment option and is expected to become the gold standard for treating infertility in men with varicoceles.

Evidence on varicocele repair is rapidly accumulating, and future research should evaluate current and new diagnostic methods, management plans, and repair techniques in studies with unified reporting methods and sufficient patient enrollment. **Keywords:** Male infertility; microsurgery; testicular sperm extraction (TESE)

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**AB23. Male infertility: forgotten issue in men’s health**

Doddby M. Soebadi

Department of Urology, Universitas Airlangga Faculty of Medicine, Soetomo Hospital, Surabaya, Indonesia

**Abstract:** In general, the man’s response to infertility has been viewed as taking less of an emotionally than his partner’s. While the findings on quality of life (QoL) of infertile women have shown mainly agreement, this seems not to be the case in men. Studies on men’s QoL have resulted in inconclusive findings. It is clear that male infertility is one of important issues in men’s health as it could alter the men’s self-esteem (read: quality of life). Medical recommendations to resolve male infertility problems can be classified into three categories; surgical or medical therapy, donor insemination (DI), and assisted reproductive technologies (ART). Psychological research and consultation have been most implicated with the latter two recommendations. The fact that some infertile couples can realize their goal of forming a biological family when here to fore such as possibility was denied them, serves to strengthen the family unit. In **vitro** fertilization (IVF) offers a chance to produce a child for those men who are sub-fertile, that is, have a low sperm count, poor sperm motility or morphology. Overall, there is much evidence to show that women react more intensely to IVF than men. Research has shown that prior to IVF, women report more anxiety and depression, and after treatment failure depressive symptomatology is less common in men. More surprisingly are recent findings, which show that men and women are similar in terms of how they respond to different stages of an IVF cycle. Authors’ experience with PESA and TESE showed good results in the treatment of male factor infertility, with good participation of the male’s partner. **Keywords:** Male infertility; quality of life (QoL); testicular sperm extraction (TESE); In **vitro** fertilization (IVF)

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**AB24. Restoration, preservation and fertility prevention of men with oncological diseases**

P.A. Scheplev, E.E. Bragina, G.A. Vaskanyan

Professional Association of Andrologists of Russia

**Abstract:** Several types of cancers in men are characterized by peak incidence in reproductive (20-40 years), pubertate (12-19 years) and prepubertate (<12 years) periods of development, thus occurring before a patient can realize his reproductive function. The most common of these malignancies are testicular tumors, lymphomas, and leukemias. Given the appropriate treatment modalities which are currently available, patients suffering from these tumors can achieve good or excellent oncologic prognosis, 5-year overall survival rate exceeding 90%, the majority of patients cured with the treatment. Meanwhile, the malignancies themselves or applied treatment options (surgery, chemo- and radiotherapy) significantly damage
patient’s fertility, chiefly affecting spermatogenesis, but in some cases extending to testosterone production and ejaculation. Therefore, it’s an issue of crucial importance to consider and apply necessary options of preserving fertility before starting the treatment, as well as to offer possible methods of fertility restoration in case it was affected.

Gonadal tumors are the most common type of malignancy in young men (15-34 years). The tumor itself may impair fertility by various mechanisms, which include secretion of paracrine mediators (TNF, ILs), paraneoplastic hyperthermia, destruction of hormone-producing leydig cell and disruption of hematotesticular barrier which leads to formation of antisperm antibodies. A considerable amount of patients present with the tumor of dystopic testicle (cryptorchidism), which are also known to be associated with reduced fertility. Around a half of patients presenting with testicular tumors have impaired spermatogenesis, further threatened by surgery and consequent adjuvant treatment. Semen preservation should be considered before the surgery and/or the start of adjuvant options. Sperm may be obtained from the ejaculate received from masturbation, intraoperational or post-operational TESE. Retrograde ejaculation resulting from retroperitoneal lymph node dissection in these patients can be treated with electroejaculation (EEJ). BEP adjuvant chemotherapy appears less damaging to the testis when carboplatin is substituted for cisplatin and no subsequent radiation therapy is given. Patients who avoid undergoing adjuvant gonadotoxic treatment (good prognosis group choosing watchful waiting) can be safely monitored until the disease progression, maintaining fertility without compromising survival rates.

Chemotherapy portends different toxicity depending on the medication used. The highest toxicity is exhibited in alkylating agents. Considering they are essential in curative Hodgkin’s lymphoma treatment, all patients with Hodgkin’s lymphoma should be offered sperm preservation before the initiation of the treatment. There are 70% of Hodgkin’s lymphoma patients have impaired spermatogenesis on presentation, which may be caused by toxicity of the tumor itself. Ifosfamide is the minimally gonadotoxic alkylating agent used in these patients. Pubertate males with lymphoma and leukemia who have objections to retrieving ejaculate through masturbation (ethical, religious, etc.) should be considered for electroejaculation under general anesthesia. Chemotherapy regimens avoiding alkylating agents result in reducing irreversible sperm damage rate from 60% to 8%. Sperm production in most patients restores by the first year after cessation of chemotherapy, yet two-year contraception should be advised since produced sperm may contain damaged DNA.

The most gonadotoxic treatment modality is external radiation therapy, applied as a curative approach in localized lymphoma, or as a part of myeloablation before stem cell transplantation, or as adjuvant approach after orchidectomy in testicular cancers. Damage directly correlates with radiation dose, 300 Gy being the threshold of potentially reversible azoosperma, which may takes years to recover, and 1,200 Gy causing irreversible cessation of sperm production. Therefore, in cases of localized and total body irradiation, it is important to apply gonadal shielding. In post-orchidectomy lymph node irradiation, stage I seminoma patients can be safely considered for limiting the zone of irradiation to paraaortic region without extending it to the pelvis.

Brain tumors typically occur in men of young age, even though they are rare in overall population. Certain anticonvulsant medications used to suppress symptomatic seizures (carbamazepine, valproic acid) can reduce the sperm quality. Temozolomide is the chemotherapeutic agent of choice in brain tumors and is highly gonadotoxic due to its alkylating action. In these patients, sperm preservation should be considered before the administration of chemotherapy. If the tumor affects the pituitary gland, or is treated by external beam therapy which exposes this zone to radiation, secondary hypogonadism may result, involving compromised fertility. These patients can be treated by exogenic gonadotropin therapy.

Hence, even though many malignancies and their treatment modalities lead to fertility impairment, the preservation of reproductive function should be individually considered and discussed in every patient. Current reproductive techniques allow for using cryopreserved semen, which may be obtained from patient before the initiation of potentially toxic treatment. Additional measures aimed at reducing the toxicity of the treatment (selecting testicular tumor patients for watchful waiting as an adjuvant option, gonadal shielding, substituting less toxic agents for alkylators in chemotherapy) further improves the chances of post-treatment fertility rehabilitation.

Keywords: Oncological diseases; electroejaculation (EEJ); dystopic testicle

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