

## A Successful Pregnancy Outcome Following IVF–ICSI Using Cryopreserved Semen from a Man with Testicular Tumor

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### Introduction

Treatment of testicular malignancy adversely affects the fertility potential of the patient. Cryopreservation of semen before treatment is a good solution to this problem.

### Case Report

An infertile couple came to our centre for semen cryopreservation. Husband was having nonseminomatous germ cell tumor of testis for which he was advised unilateral orchidectomy followed by chemotherapy. Being a medical professional he was aware of the impact of chemotherapy on the semen quality and the treatment modalities available

for future conception. Four vials of semen were frozen over a period of 15 days prior to chemotherapy. He subsequently underwent full treatment for his malignancy. He visited us again after 2 years when he was declared cured.

The couple underwent first cycle of intrauterine insemination (IUI) following gonadotrophins stimulation using one of the four frozen semen samples. She did not conceive during that cycle. As the number of semen samples was few, it was decided to change the treatment to intra cytoplasmic sperm injection [ICSI]. An IVF–ICSI procedure was initiated on the long protocol with 300 IU of recombinant FSH. A total of 13 eggs were retrieved, ICSI was performed using the second sample of frozen-thawed semen. Out of the total nine good quality embryos, three were transferred and the remaining six were frozen. Patient failed to conceive. A thawed embryo transfer cycle was performed a month later, which also failed. A second IVF–ICSI cycle was carried out 3 months later with 375 IU of r-FSH. Twenty-eight eggs were retrieved; ICSI was performed after thawing the third semen sample. Fifteen good quality embryos were formed; two were transferred and the remaining 13 frozen. She conceived during this cycle.  $\beta$  hCG done on day 15th of embryo transfer was

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280 mIU/ml. Pregnancy was supported with progesterone capsules of 200 mg three times a day for up to 14 weeks of pregnancy. She had routine antenatal care and had an uneventful pregnancy till term. She opted for an elective cesarean section and delivered a healthy male child weighing 3.2 kg.

## Discussion

Testicular germ cell tumor though rare, accounts for 1–2% of all malignancies in males. Germ cell tumor (GCT) is the most common malignancy in men aged 15–35 years. Typically it presents with a painless lump of some months duration in the testis. Sonography and hormonal markers usually help in confirming the diagnosis. Patients commonly have abnormal findings on semen analysis at presentation. But they may be subfertile. Although testicular GCT is the model of a curable malignancy, its treatment has unique morbidities. Clinical attention is now shifting away from the problem of cure towards refinements in quality of life among survivors. Majority of patients are in their reproductive years and have not started or completed families. As a consequence, quality of life largely centers on sexual function and fertility.

Prior semen cryopreservation is an extremely important procedure to preserve fertility potential of men undergoing treatment of this malignancy [1]. However current techniques in cryopreservation of human semen leads to decrease in sperm quality especially the motility after thawing [2]. This results in poor results of IUI with frozen-

thawed semen especially if the initial sample is not normal. This can be overcome by sperm micromanipulation techniques such as ICSI. Cochrane data base reports evidence that fertilization rates are significantly better with ICSI than IVF in couple with borderline semen [3]. Clinical pregnancy rates of 40% per cycle and delivery rates of 25–30% can be expected.

Thus advances in assisted reproduction have created opportunities for preservation of the reproductive potential of young men with testicular tumor. Semen cryopreservation must form an integral part of the therapeutic protocol of the patients with testicular malignancies. It also acts as a psychological boost to the patient. Increasing awareness amongst oncologists and urologists treating male cancer patients about advances in reproductive technologies is necessary.

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