

PREPUBERTAL TESTICULAR TISSUE CRYOPRESERVATION: A SINGLE CENTRE EXPERIENCE

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Abstract Body

Testicular tissue cryopreservation (TTC) aims provides an option for fertility preservation in pre-pubertal males at significant risk of azoospermia owing to high-risk gonadotoxic treatments. We aim to describe the indications, safety and efficacy of TTC in young male patients within our oncofertility precinct.

Methods

In 2013, our fertility preservation program at The Royal Women's Hospital in collaboration with The Royal Children's Hospital (RCH) in Melbourne was extended to offer this service to paediatric male patients. The procedures were undertaken under RCH governance as a novel technology (with executive oversight), with clinical ethical review and research approval for data collection.

We undertook a retrospective analysis of all patients undertaking TTC at our unit to examine indications, and surgical complications.

Results:

To date, testicular tissue samples were obtained from 232 patients under 14 years of age undergoing gonadotoxic treatments due to oncological and non-oncological conditions. 161 boys had TTC for oncological conditions at moderate to high risk of infertility (Cyclophosphamide equivalent dose ≥ 4 g/m²). The most common indication was CNS malignancy (n=51), followed by sarcoma (n=39), leukaemia (n=38), and lymphoma (n=15). Of the 71 boys that underwent TTC for non-oncological indications, blood disorders and gender dysphoria were the most common indications (20 each). Mean age of patients was 7 years (SD 4.1, Range 0.1-13.9). Complications were uncommon and included one case of scrotal infection and one haematoma (2%). There was one case of malignancy detected on histology. None of the patients have requested to use the tissue for fertility purposes do date.

Conclusions:

To date, this is the largest testicular tissue cryopreserved cohort from a single centre. TTC is a safe procedure. It appears that patients and guardians are willing to pursue a novel fertility preservation procedure when no alternatives are available.