

# C27 Microdissection oncoTESE (micro-oncoTESE) in azoospermic men - is there a difference in surgical sperm retrieval (SSR) rates for benign and malignant testicular lesions? An eUROGEN centre study

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## INTRODUCTION

- 5-24% of men with testicular cancer (TCa) are azoospermic at diagnosis
- Adjuvant treatments such as chemotherapy, radiotherapy and retroperitoneal lymph node dissection can have further detrimental effects on semen parameters and fertility.
- Patients diagnosed with azoospermia and testicular lesions suspicious for cancer can be offered microsurgical surgical sperm retrieval at the time of radical or partial orchidectomy from the tumour harbouring testicle (micro-oncoTESE) with or without microdissection testicular sperm extraction (microTESE) from the contralateral testicle.
- In this study we present the outcomes of micro-oncoTESE in a cohort of men undergoing radical or partial orchidectomy for both malignant and benign testicular lesions.

## METHODS

- A retrospective descriptive cohort study was conducted identifying men presenting to a complex testicular cancer clinic in an eUROGEN centre
- Patients with suspected TCa or indeterminate testicular lesions confirmed by ultrasonography and who were found to be azoospermic on pre-operative semen analysis were included.
- Micro-oncoTESE was performed on the ipsilateral side to the tumour in cases where there was a solitary testicle or where there was a reasonable amount of unaffected testicular parenchyma well away from the tumour. A contralateral procedure was performed if there was an unaffected testicle, or both testicles were explored depending on whether spermatozoa were found on either side.
- Micro-oncoTESE was performed *ex vivo* in cases where radical inguinal orchidectomy was indicated and *in vivo* when either testis sparing surgery was performed or the contralateral unaffected testicle underwent a microTESE.
- The primary outcome measure was detection of mature spermatozoa
- Supplementary data was collected on tumour subtype, maximum tumour length and maximum testis length as documented by the histopathology report together with the Johnsen score
- Follow up documented the usage of spermatozoa for intra-cytoplasmic sperm injection (ICSI) and the subsequent live birth rate

	TCa	Benign	Total
Successful sperm retrieval	12	1	13
Failed sperm retrieval	14	6	20
Total	26	7	33
SSR rate	46%	14%	39%

Table 1 – Sperm Retrieval Rate Per Patient

## RESULTS

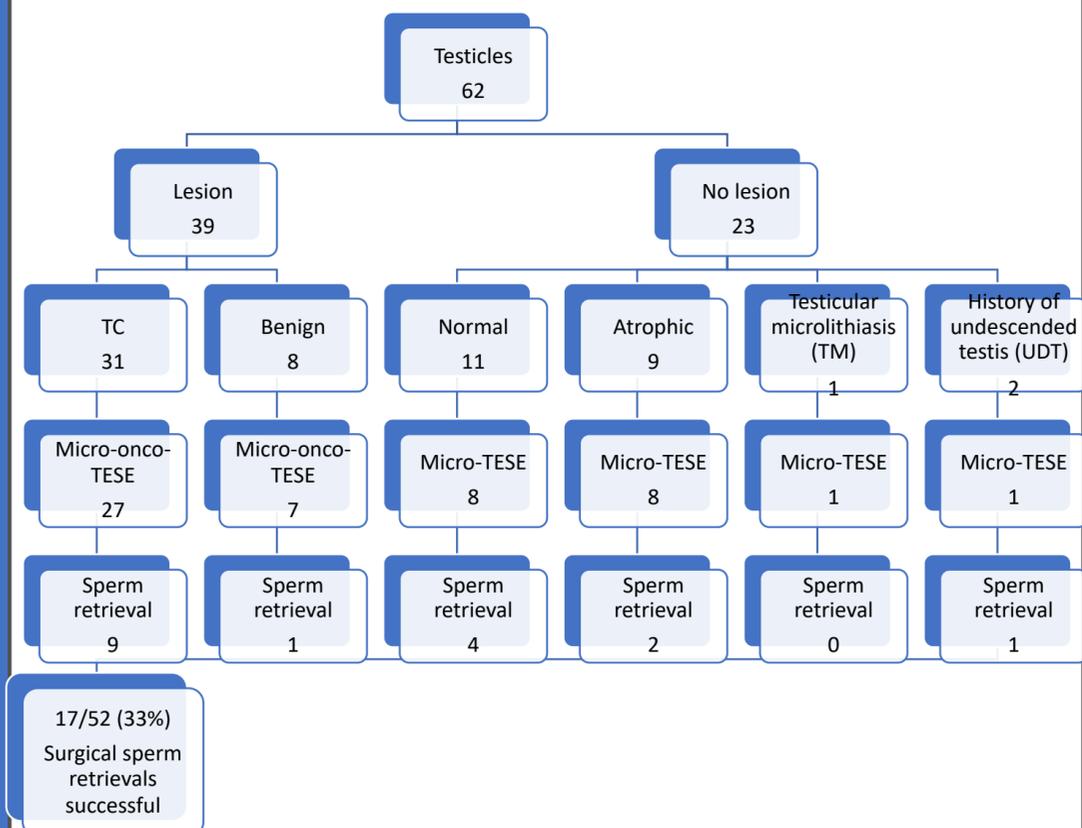
Analysis per patient (table 1)

- Between 2011 and 2019, 33 patients with a median age of 33 years (range 24-36) underwent micro-oncoTESE.
- Histological analysis revealed TCa in 26 patients (79%) and benign testicular pathology in 7 patients (21%).
- Surgical sperm retrieval rate (SSR) was 39% overall
- SSR TCa group (46%) v Benign group (14%) p=0.2.

## RESULTS

Analysis per testis (Figure 1)

- The cohort included 4 patients with a solitary testis and 6 patients with bilateral testicular lesions.
- Therefore 62 testes harbored 39 lesions.
- SSR 33% per testis unit overall.
- SSR 33% per testis containing Tca.
- SSR 39% in testes with no lesion.
- SSR 14% in testes with benign lesions.



- The mean maximum tumour length (MTL) was 33.9mm +/- 23 (SD) in the successful group vs 29.8mm +/- 17.5 (SD) in the unsuccessful group (p=0.62)
- The maximum tumour length to testis length ratio (MTTLR) was 0.62 +/- 0.26 (SD) in the successful group vs 0.57 +/- 0.22 (SD) in the unsuccessful group (p=0.59).
- Johnsen score was available for 30 (58%) testes undergoing a surgical sperm retrieval.
- Johnsen score was less than 3 in 23 biopsies.
- Therefore Sertoli cell only (SCO) present in 77% of biopsies performed.
- 2 normal live births from the entire cohort giving a live birth rate of 6% at a median follow up of 3.68 years (figure 2)

## CONCLUSIONS

- Azoospermic men with suspicious testicular lesions are a diverse group including men with solitary testes, bilateral tumours, benign and malignant lesions
- Our results show an overall SSR of 39% in such patients.
- Tumour length and tumour to testis length ratio did not impact upon SSR
- A higher than expected proportion of patients biopsied had a diagnosis of SCO.
- Micro-onco-TESE should be offered to all azoospermic men with suspected testicular cancer with success rates that are comparable to micro-TESE in the general azoospermic male
- A significant proportion of such men (22%) will have benign histology, therefore testis preserving surgery should be offered where possible
- While there was a trend towards a higher SSR in the TCa group, this was not statistically significant.