

SUCCESSFUL IN VITRO MATURATION OF IMMATURE OOCYTES EXTRACTED EX VIVO FROM A TERATOMA-CONTAINING OVARY: A CASE REPORT

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Abstract Body

Introduction

Retrieval of oocytes for in vitro maturation is a possible strategy in urgent fertility preservation (FP). When ovariectomy takes place, extraction of immature oocytes during tissue processing offers another source of oocytes for IVM (ex vivo-IVM). We present a case reporting that immature oocytes were obtained in presence of large ovarian dermoid and serous cysts.

Materials and methods

A 23 year-old patient with history of left adnexectomy because of ovarian carcinoma. Two months later, MRI confirmed the presence of one follicular serous cyst of 36mm and a dermoid cyst of >30mm₃ occupying the whole right ovary, but few antral follicles could be observed. The multidisciplinary therapeutic decision was to undergo ovariectomy followed by chemotherapy. The serous cyst was removed and the whole ovary was transported to the laboratory (1h). At the laboratory, the dermoid cyst was excised and the remaining tissue was processed to free eventual immature oocytes and for OTC. OTC was performed in view of her young age and, if the tissue is not autografted, future new developments might offer the possibility to obtain mature oocytes from her tissue (i.e. in vitro follicle development).

Ovary was transported and processed at 4°C in L15-Leibovitz media supplemented with streptomycin/penicillin and HSA. IVM media used was Origio IVM media supplemented with 75 mIU/ml FSH, 100 mIU/ml LH and patients serum.

Results

Ten cumulus-enclosed GV-stage oocytes of good appearance were recovered and seven became MII at 30 hours IVM (70%), and vitrified. 23 ovarian fragments were cryopreserved.

Conclusion

In presence of large diameter serous and/or solid cysts, once antral follicles are visualised, ex-vivo extraction of GVs might be attempted when FP is needed. As such, immature oocytes recovered might offer to patients a surplus or, as in the present case, the only immediate chance for the patient to attempt fertilisation post-chemotherapy and recovery.