DO ANTI-APOPTOTIC DRUGS PREVENT FOLLICLES LOSS DURING OVARIAN CORTEX TRANSPORT AND CRYOPRESERVATION?
L. Henry\textsuperscript{1}, M. Fransolet\textsuperscript{1}, S. Labied\textsuperscript{1}, C. Munaut\textsuperscript{1}, N. Kirschvink\textsuperscript{2}, A. Noel\textsuperscript{1}, M. Nisolle\textsuperscript{1}, J.M. Foidart\textsuperscript{1}
\textsuperscript{1}University of Liege, Liege, Belgium
\textsuperscript{2}FUNDP, Namur, Belgium

Introduction: Ovarian tissue cryopreservation before radio and chemotherapy in order to preserve fertility allowed the birth of more than 20 babies worldwide. Previous studies demonstrated the loss of follicles reserve by apoptosis during cryopreservation by slow freezing.
Aim: To limit cells apoptosis in the ovarian tissue, we evaluate the effect of anti-apoptotic drugs (Imatinib, Nilotinib, Sphingosine-1-phosphate and Z-VAD-FMK) in transport and freezing media.
Protocol: Sheep ovarian tissue was cryopreserved by slow freezing and two concentrations of each drug were tested. Follicles were revealed by GDF-9 immunostaining and counted on 10 slides per fragments. A total of approximately 12 fragments by condition were analyzed.
Results: Follicular quantification showed a high heterogeneity of follicular distribution among the different ovarian cortex fragments, ovaries from the same animal and sheeps used. No significant difference between conditions was demonstrated. Indeed, only follicular counting with this heterogeneity did not assess follicular quality and evaluation of drugs effects. Therefore, we are currently analysing cells apoptosis by a Tunnel immunostaining and tissue survival and proliferation of ovarian cortex strips cryopreserved/thawed after culture for several days.
Conclusion: No beneficial effect of the addition of anti-apoptotic drugs in transport and freezing media was demonstrated in our study. Therefore, the potential protective effect on tissue survival of these drugs had to be more evaluated by tissue culture or xenograft in mice.