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## Objective

To verify the time of transportation of bovine ovarian tissue from the collect place to laboratory in order to determine the best conditions of tissue transportation.

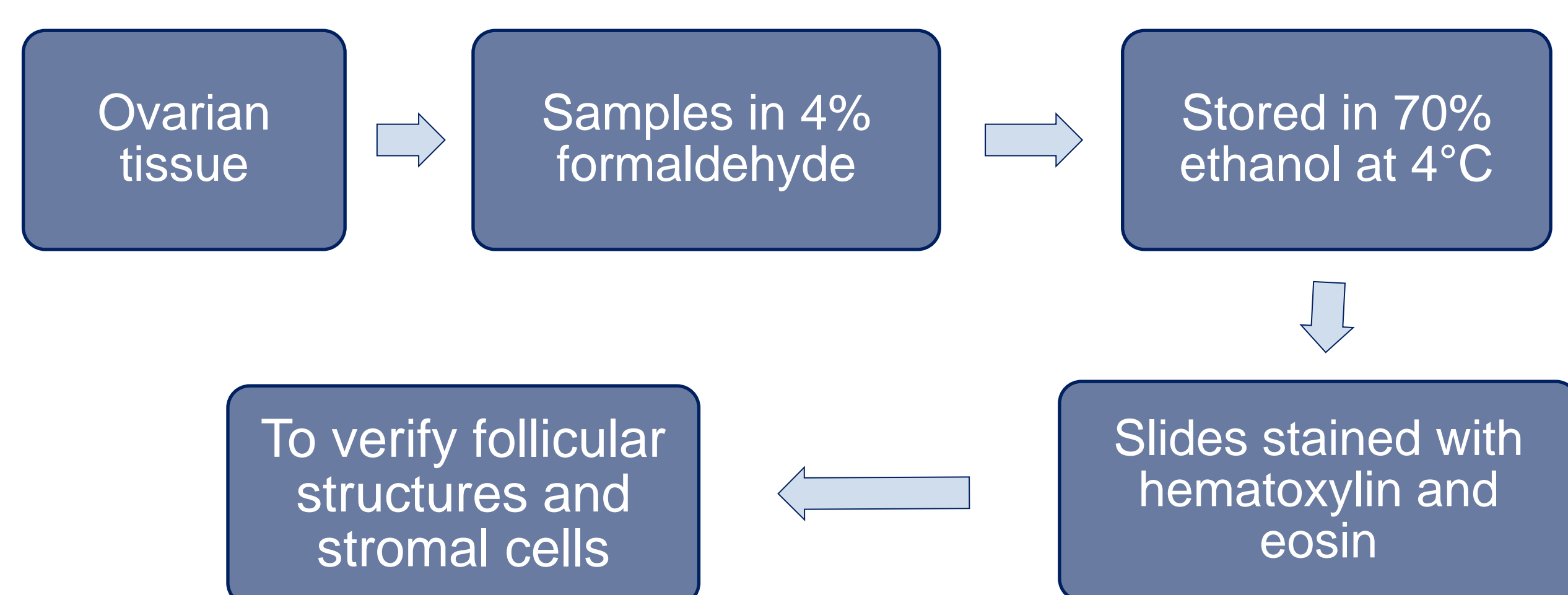
Determine the conditions for optimal transportation of ovarian tissue from where it was collected to the laboratory for processing and cryopreservation.

To evaluate the possibility to transport over long distances ovarian tissue, if necessary.

Propose one type of transport tissue to the lab so that cryopreservation of ovarian tissue is a promising and affordable technique for fertility preservation

## Methods

Bovine ovarian tissue samples (N=10/group) were transported from the collection place to the laboratory in the range of 1 or 3 hours in thermal bottles at 4°C and 37°C, that contained a media with gentamicin (10 µg/mL). Groups: 1h 4°C, 1h 37°C, 3h 4°C and 3h 37°C. For morphological assessment, histological blades were prepared and stained with hematoxylin and eosin.



The follicle integrity and morphology were evaluated by counting the intact follicles with presence of nucleus (primordial, primary, transitory, secondary and antral) and atretic. The results were compared between the groups using the T-Student test followed by Mann-Whitney.

## Results

The average number of atretic follicles in groups 3h 4°C and 3h 37°C ( $7,0 \pm 5,0$  and  $7,0 \pm 4,0$ ) were greater than what found in the groups 1h 4°C and 1h 37°C ( $4,0 \pm 3,8$  and  $5,0 \pm 5,5$ ), even the difference wasn't significant.

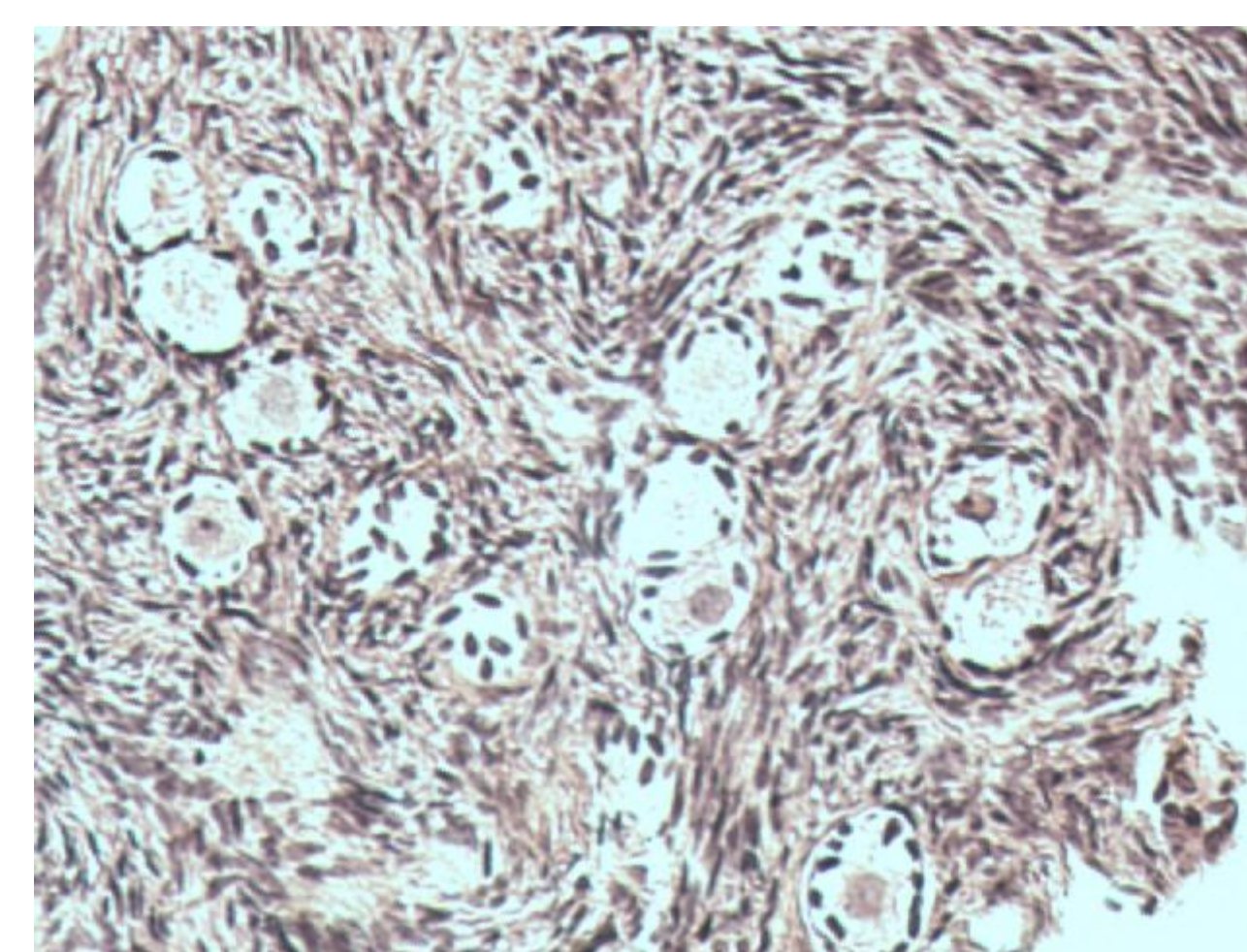


Fig. 01 – Ovarian tissue 20x – sample of 3h 37°C

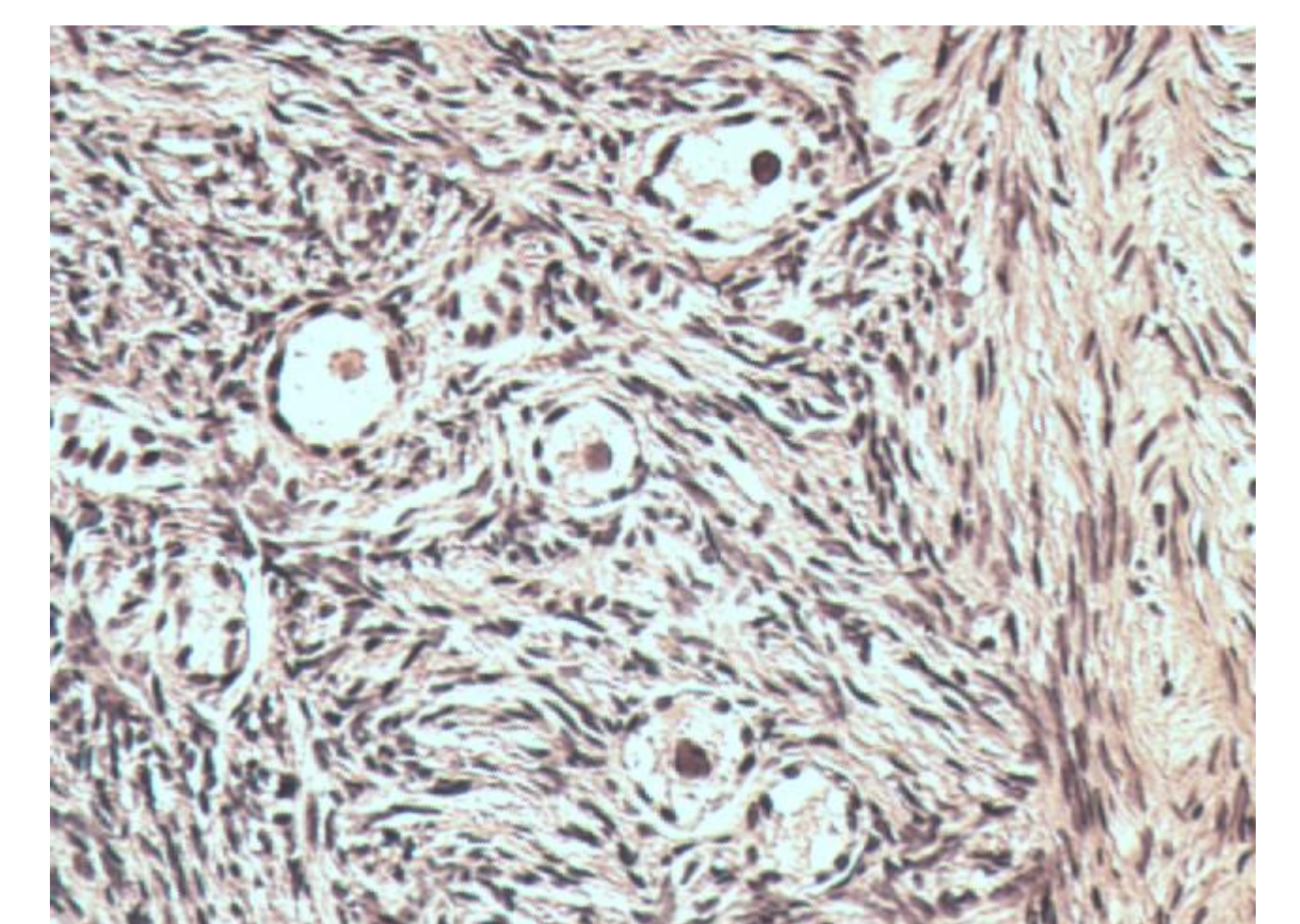


Fig. 02 – Ovarian tissue 20x – sample of 1h 37°C

The number of intact follicles didn't show difference between the groups.



Fig. 03 – Antral follicle 10x – sample of 3h 4°C

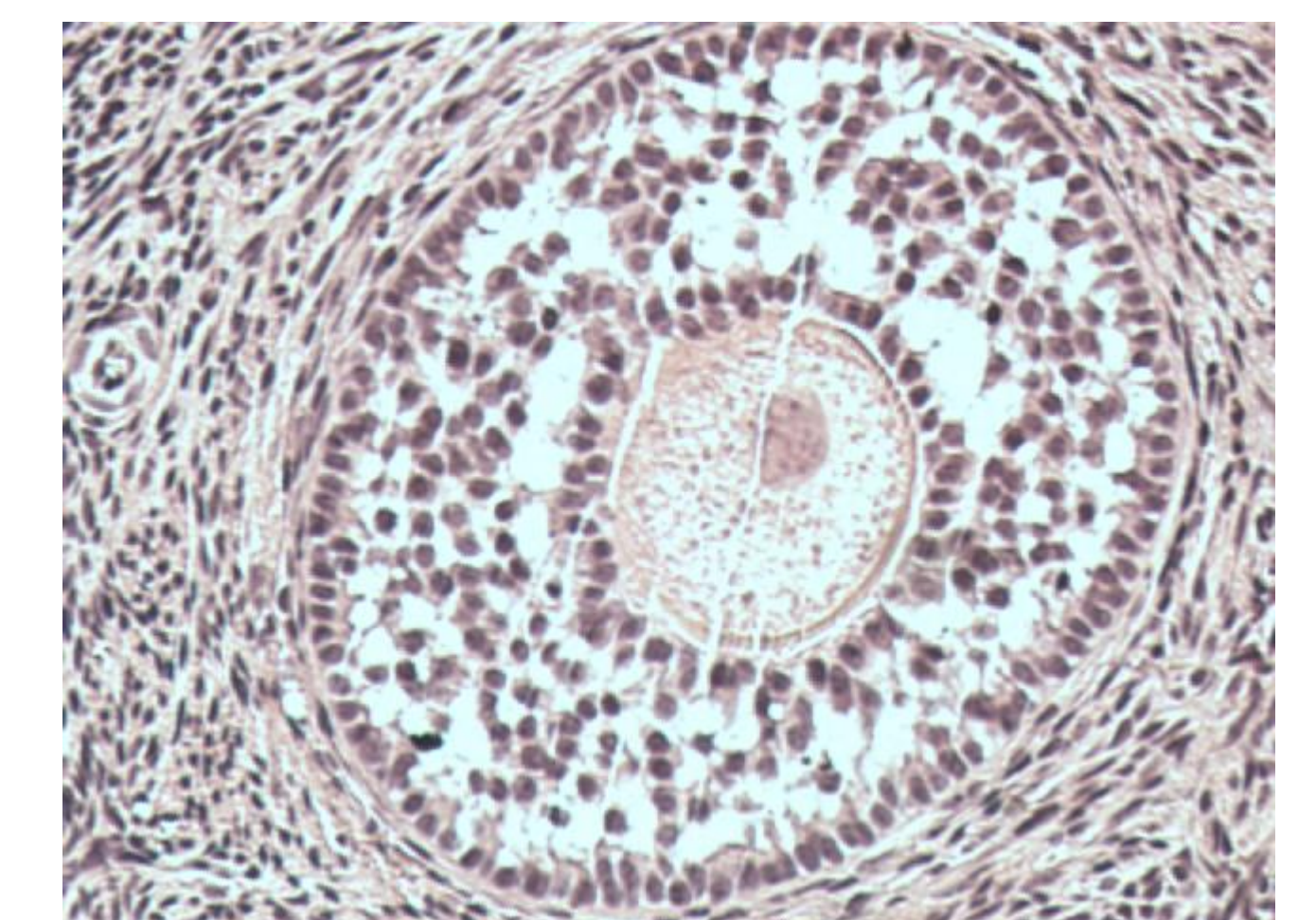


Fig. 04 Secondary follicle 20x – sample of 1h 4°C

## Conclusion

The time of transportation seems to influence the integrity of bovine follicles transported both at 4°C and 37°C. The number of atretic follicles were greater after a long time of transportation than a short time. It is still required the increase of the sample size to confirm the results. This study helps to determine the faster and the best conditions for transportation of human ovarian tissue in case of human fertility preservation.

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