

## **Title: The study of rat mesovarium's mast cells number, size and structure in relation with estrous cycle and chronic cold stress**

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**Received: August 16, 2022; Accepted: August 18, 2022; Published: September 25, 2022**

The climate of Mongolia is dry and extreme, with cold seasons during the 5-7 months of year, which is one of the causes of cold-borne disorders occurring in people. In our country, there are cases of women with inflammatory disease of reproductive organ too. Although the researches on ovarian mast cells have been common so far, the researches on mesovarium mast cells, which have good blood and nerve supply, is pretty uncommon. The researches on cold stress induced changes in mesovarium mast cells' number, size and structure in relation with menstrual cycle hasn't been done yet in our country. In our study, we have chosen 16 rats in control group and 48 rats in cold stress group, a total of 64 rats. The cold stress group was divided again into 3 groups (16:16:16) and underwent daily cold stress (refrigerator-150C) from 8:00 am-11:00 am for 7, 14, 21 days in order to generate cold stress model. The number, shape, structural changes, size, perimeter, length and width of the mesovarium mast cell were determined. The determination of estrous cycles was carried out at 8 am on test day by taking a smear from the vagina using Papanicolaou test and the phases of estrous cycle was determined by histological test.