

ABSTRACT

Dianita Freyda Apsari. 24020121140127. Morphology of Ventricle Parietal Cells in *Rattus norvegicus* After Fixation with 10% NBF, Bouin, & 50% Ethanol for One Week. Under the guidance of Silvana Tana & Muhammad Anwar Djaelani.

Fixation is an important initial step in histological microtechnique because it determines the success of preserving tissue structure. Prolonged fixation can cause tissue damage, especially in soft tissues such as the ventricle. This study aims to describe the appearance of parietal cells of the ventricle in *Rattus norvegicus* after one week of fixation using 10% NBF, Bouin, & 50% ethanol. In the first treatment, the ventricles were fixed using 10% NBF & washed with distilled water; in the second treatment, the ventricles were fixed using Bouin & washed with 70% alcohol; in the third treatment, the ventricles were fixed using 50% ethanol & washed with 50% alcohol. Fixation was carried out for one week, while the washing stage was performed four times for 30 minutes each. The observed variables include the diameter of parietal cells, the diameter of parietal cell nuclei, the color of parietal cells, the color of parietal cell nuclei, the shape of parietal cells, the shape of parietal cell nuclei, & tissue integrity. Measurement data were analyzed using analysis of variance (ANOVA) followed by Duncan's test at a 95% confidence level. The conclusion of this study is that fixation using 10% NBF produces parietal cell images that most closely resemble normal conditions, with good cell shape & integrity. Bouin fixation still preserves cell structure but shows some morphological changes. Fixation with 50% ethanol causes the most pronounced morphological changes, manifested as shrinkage of cells & cell nuclei.

Keywords: *cell morphometry, histological preparations, hematoxylin-eosin, tissue quality*