

^{60}Co 감마선조사가 닭의 정소에 미치는 영향에 관한 연구

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Abstract

Morphological Study on the Effects of ^{60}Co γ -irradiation on the Testis in the Chicken

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This study was undertaken to observe the effects of ^{60}Co γ -irradiation on the cell of spermatogenic epithelium in the testis of the chicken.

16-week-old chicken were provided as an experimental group and compared with control group. The experimental group was divided into a single irradiation(800, 1000, 1200 rads) and into three partial irradiation group(800/3, 1000/3, 1200/3 rads).

The morphological changes of epithelial cell of the testis were observed by means of hematoxyline and eosin stain. Microstructure of spermatocyte and sperm was observed by means of semithin section of electron microscopic specimen.

The results obtained are summerized as follows.

1. Spermatogonia and sertoli cells were found to be isolated from the basal membrane of seminiferous tubules as dose of ^{60}Co γ -irradiation was increased.
2. Spermatocytes of pachytene stage were seperated from the cytoplasmic process of sertoil cell in case of 1000 rads of ^{60}Co γ -irradiation.
Spermatids and sperms were dispersed in the lumen of seminiferous tubules by 1000 rads of ^{60}Co γ -irradiation.
3. Normal arrangement of the cell of spermatogenic epithelium was found in control group and only the partial irradiation group of 800 rads. Vaculation in the seminiferous was pronounced in case of a single irradiation group of 800 rads, but the irradiation group of 1000 rads and 1200 rads were found to be damaged severely in both a single and a partial dose.