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A QUANTITATIVE STUDY ON THE SEMINIFEROUS EPITHELIUM OF THE ADULT MINK IN THE PRE-BREEDING SEASON

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The cellular association of the seminiferous epithelium was quantitatively analyzed in the testes of five 16 month old adult minks before the commencement of the second breeding season. Using the criteria described by TIBA (1973) for classifying the cycle of the seminiferous epithelium of minks in the breeding season, two different types of cellular association could be found in these animals. One is quite similar to that relative frequencies of steps 1 through 9 were 81.24, 2.14, 2.28, 8.76, 3.90, 0.45, 1.07, 0.26 and 0%, respectively. The other is that in which the cellular association did not correspond to any steps but was found in 3.36% of the seminiferous tubules examined. Significant differences between relative frequencies of each step were found in 3 different sites of a testis (the capital pole, equatorial zone and caudal pole) by means of a discriminant analysis ($P<0.05$). The mitotic index, degenerative index and mean number of nuclear points per cross-section of the tubule were examined. The mitoses were observed both in "Gonocyte-like cells" and in three different types of the spermatogonia—A-type, intermediate, and B-type spermatogonia. A high degenerative index was noted mainly in the intermediate spermatogonia and in the primary spermatocytes in the pachytene stage. Decreases in the mean number of nuclear points in the intermediate spermatogonia, B-type spermatogonia, and primary spermatocytes may be attributed to degenerations of the intermediate spermatogonia in step 6 and in the primary spermatocytes in steps 6~8 in the pachytene stage.

The results obtained suggest the existence of a different arrangement in the kinetics of spermatogenesis in adult minks between the breeding season and the pre-breeding season. In addition, it is also possible that the intermediate spermatogonia play an essential role as the primary spermatocytes in the pre-breeding season.