The Sertoli cells, which nurture maturing germ cells, play an important role in the process of spermatogenesis. Scanning electron microscopic configuration was never accurately described, probably because of its complicated morphological features as well as its close attachment to germ cells.

The study was carried out in 10 dog’s testes samples collected from Small Animal Operation Theater, Department of Veterinary Surgery, College of Veterinary and Animal Sciences, G.B.P.U.A. & T., Pantnagar. The testes from sexually mature dogs were fixed in 2.5% glutaraldehyde with 0.1 M phosphate buffer, after perfusing with the same fixative through the testicular artery. They were cut into smaller pieces to be fixed in 2.5% glutaraldehyde overnight. The materials were then washed in 0.1 M phosphate buffer for 10 minutes at 4°C and rinsed in 8N hydrochloric acid (HCL) at 60°C for 15-20 minutes. The specimens, washed repeatedly in Hanks’ balanced salt solution (HBSS) for about 10 minutes. They were postfixed in 1% osmium tetroxide, dehydrated with graded ethanol (30%, 50%, 70%, 90% and 100%) and dried with liquid CO2 at the critical point for 60-90 minutes by using EMITECH K850. Finally, they were coated with gold by using JEOL JFC-1600 auto fine coater and observed under a JEOL JSM-6610LV scanning electron microscope.

In present study the basal portion of the seminiferous epithelium, spermatogonia and/or spermatocytes were located in compartments enclosed by adjacent Sertoli cells. From the basal aspect, they were situated in successive recesses. In the middle portion, early round spermatids halfway embedded in the Sertoli cell were recognized. The exposed surfaces of these spermatids were wrapped with ramifying processes which were derived from the Sertoli cell. In the apical portion, only the heads of the maturing spermatids invaded the Sertoli cell. As the spermatid matured, the apical Sertoli process varied in range to finally release the spermatid head. It is probably that the maturing spermatids gradually leave the apical Sertoli process and ultimately segregate themselves from the seminiferous epithelium. The average diameter of seminiferous tubule and sertoli cell was 70.893±0.4106μm and 6.1566±0.0509μm respectively.

Keywords: Sertoli cell, dog, spermatogonia, seminiferous tubule, SEM.

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Fig. 1: Showing Basal portion of the seminiferous epithelium from the basal aspect. Some spermatogonia are situated in successive recesses. These recesses consist of continuous Sertoli cells. BM basement membrane, (Sp) Spermatids in lumen

Fig. 2: Showing mature spermatozoa (Sp) produced from sertoli cell (Sc) of dog