

ABSTRACT

The testicular structure of the wild caught naked mole rat was studied. It comprises of a large volume of lipid-rich interstitial cells of Leydig among which are few scattered seminiferous tubules. In addition, the interstitial cells possess elongated mitochondria and vast network of smooth endoplasmic reticulum (sER). The Golgi apparatus (GA) apparently is not conspicuous or well developed. All stages of spermatogenesis occur in the seminiferous tubules although the mature forms (secondary spermatocytes, spermatids and spermatozoa) are few. Sertoli cells show an irregular nucleus, mitochondria oriented perpendicular to the basement membrane, a vast network of endoplasmic reticulum with sER as the predominant form and lipid droplets. The ultrastructural features of Leydig cells seem to suggest a steroidogenic capacity although the vast accumulation of lipid droplets may imply impaired utilisation of cholesterol reservoir as a result of pituitary hormonal imbalance or (and) the local paracrine influence by Sertoli cells. The cause of slow-down in spermatogenesis is still unclear but may also be under the influence of pheromonal cues or the local paracrine control. Sertoli cell features point towards a role of synthesis and secretion.