

The spherules accumulate in several rows around the nucleus. They protrude from the cell envelope. Such morphological patterns correspond to the phenotypic features of myeloma cells seen in photos obtained using scanning microscopy [8]. Therefore, Mott cells also resemble a "grape cluster" and/or "morula." The protrusion or dominance of spherules above the surface of Mott cells is considered to correspond to the degree of cell maturity [2,7]. The spherules resemble the vacuoles formed by the extensions of rough endoplasmic reticulum and containing condensed immunoglobulin [2,4,6,7]. The contents of the spherules of lymph-derived Mott cells is of a light-green color, while the nucleus is blue.

The Mott cells of the lymph in our experimental groups varied in diameter from 30 to 55 μ . The content of Mott cells in the lymph of intact animals was within $0.03 \pm 0.007\%$, whereas in atherosclerotic animals it attained $0.06 \pm 0.01\%$. The observed increase of lymph Mott cells in atherosclerosis may be connected with the

influence of exogenous cholesterol on the immune system and in some way reflect the latter's reaction.

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Effects of Hyperprolactinemia of Various Origin on the Paracrine Relations in rat Testes

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The paracrine relations in various organs are at present being studied closely by histophysiologists, the gonads being among the organs that attract special attention. The relationships between elements of the contorted seminiferous tubules and the testicular interstitial tissue have been actively studied of late [6]. Research of

extraorganic (humoral) factors has been limited mainly to an analysis of the direct effects of some hormones (mainly gonadotropins) on individual cellular elements of the testis. If, rather than separate cells, a particular system of paracrine relationships is investigated, it has to be admitted that the extraorganic regulation of such systems is virtually unknown. Studies of a number of hormones are of interest here, among others, of prolactin, a hormone that has been a focus of interest of late [2].

The present research was aimed at studying of hyperprolactinemia of various origin on the paracrine relationships in rat testes.

MATERIAL AND METHODS

The testes of white outbred mature rats weighting 250-300 g were histologically analyzed. The experimental

Table 1. Counts of Glandulocytes Detectable round Contorted Seminiferous Tubules.

Preparation	Spermatogenesis	
	VII	XII
Control		
Normal saline	67 \pm 3	53 \pm 4
Lactin (animals killed one week after treatment)	54 \pm 2	50 \pm 5
Lactin (animals killed two week after treatment)	42 \pm 2	37 \pm 2

animals were injected intraperitoneally with lactin in a dose of 18 IU/kg b.w. daily for a week. Testicular fragments were fixed in Brodsky's fluid and embedded in paraffin. Sections 4 m thick were stained with hematoxylin and eosin. For assessment of paracrine relationships, the histologically detectable interstitial glandulocytes were counted round the transverse sections of contorted tubules with spermatogenesis stages VII and XII [5]. The site of the investigation was limited by a circumference with the perimeter passing through the centers of the adjacent sections of the contorted

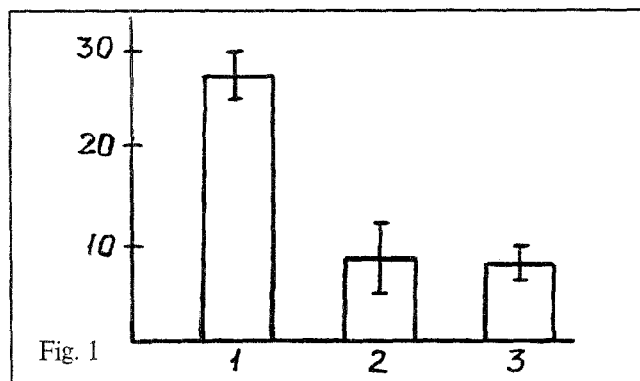


Fig. 1. Differences in glandulocyte counts round transverse sections of tubules with spermatogenesis stages VII and XII.

1) control; 2) lactin (animals killed one week after treatment); 3) lactin (animals killed two weeks after treatment).

tubules. The data were statistically processed using the Student method.

RESULTS

Analysis of the control animals' testes showed that the mean counts of histologically detectable interstitial glandulocytes round the transverse sections of the tubules with spermatogenesis stage VII were significantly higher than these cell counts round the tubules with stage XII (see Table 1). The significant difference between these values should not be regarded as evidence of a change in the absolute count of Leydig's cells as a function of the stage of the spermatogenesis cycle in the nearest portion of the interstitium. A more probable explanation is a changed intensity of the histologic characteristics of the glandulocytes analysed. The characteristics of low-active glandulocytes may approach those of the fibroblastlike cells, to which they are

closely related. The difference detected between these parameters is indicative of paracrine effects in the male gonad. Only local factors may cause such differences in the same organ for a uniform exposure to extragonadal hormonal regulators. The most marked changes in various sections of the testis are due, first of all, to the differences in spermatogenesis organization in a particular part of a tubule.

It is quite possible that the detected glandulocyte changes are induced directly by intratubular elements. These results are in line with our previous data on the relationship between changes morphology of Leydig's cells and their contacts with parts of the tubules where spermatogenesis is disturbed or intact [1] and with the data on the dependence between changes in Leydig cell cytoplasm volume and the cycle stage in the adjacent portion of a tubule. The stated difference in the glandulocyte characteristics in various parts of the testis may serve as a test for analysis of the activity of paracrine effects of a tubule.

The problem of the relationship between the paracrine and endocrine levels of regulation is of importance. Not only the well-studied gonadotropins, but also the less-studied and actively researched at present prolactin may contribute to this relationship. The index of differences in glandulocyte detectability in various parts of the testis was found to be lower in an analysis of material from hyperprolactinemic animals, that is, the normal difference was leveled (Table 1 and Fig. 1). This result indicates an evident imbalance of the paracrine relationships between the tubules and interstitial glandulocytes in hyperprolactinemia. This imbalance can hardly be explained by published data on the mechanism of the direct effect of prolactin on the glandulocytes [2].

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