TÜRK PATOLOJİ DERGİSİ • 7-2:41-43 (1991)
(The Turkish Journal of Pathology)

OVARIAN SERTOLI-LEYDIG CELL TUMOR WITH A PREDOMINANT RETIFORM DIFFERENTIATION

Doç. Dr.Rıdvan İLHAN (*) • Uzm. Dr. Sıtkı TUZLALI (*) • Prof. Dr. AltanİPLİKÇİ (*) • Prof. Dr. İsmail PETORAK (**)

SUMMARY: In the present study, light microscopic features of a tumor localized in the right ovary of a 17 years old-girl is presented. The patient had symptoms of virilization such as clitoral hypertrophy and defeminization such as amenorrhea. The dimension of the tumor was 14 cm, and microscopically it was a moderately differentiated sertole Leydig cell (SLC) tumor made up largely of retiform areas.

INTRODUCTİON

Sertoli-Leydig cell (SLC) tumors comprise less than 0,5 % of all ovarian tumors. They're most frequently seen in young patients and between ages 20-30, but can be seen in all age gruops. These tumors frequently have a virilizing character, but some do not have demonstrable endocrine effect of this type and some others have estrogenic effects (6,8).

SLC tumors don't have spesific characters. Bilateral involvement is seen in 3 % (6,8).

Retirform differentiation is encountered in 10 % of SLC tumors. Areas showing retiform differentiation are composed of blunt papillae with hyalinized or edematous cores and irregular cleft-like spaces. These formations are lined by cuboidal cells. This appearence resembles the retia of mature gonads (7).

Serov and scully (10) classficated the SLC tumors as well, moderately and poorly differentiated and according to the presence of heterologous elements, a fourth group is also included. In this classification, retiform differentiation is not mentioned. But some authors categorize them as a different group (5).

MATERIAL AND METHOD

The first case diagnosed as "retiform type SLC tumor' in the Department of Pathology, İstanbul Medical Faculty is examined histopathologically. 19 sections for histologic examination from different parts of the tumor are taken. Sections from paraffin blocks are stained with hematoxylin-Eosin (HE) stain.

CASE (Biopsy prot. 13279/90)

17 years-old girl having a months-period of amenorrhea, complained of an abdominal mass and sense of suprapubic discomfort since the last two months. The clinical diagnosis was "a right ovarian tumor" and a right ooferektomi was performed.

In gross examination, the tumor was 14 x 11 x 11 cm. in this longest dimensions and had a well-vascularized capsule. The external surface of the tumor was grayish-pink in cloor. The mass had a soft consistency. In its cut sections grayish solid areas and between them, various cystic spaces of variable size containing a yellowish serous fluid were seen.

Microscopically, in some areas of the tumor small tubules with lumina or cord-like structures of Sertoli cells were seen. Sertoli cells of this type were surrounded by fusiform cells (Fig 1). These mesenchimal areas were moderately cellular. In a few sections, Leydig cells with vesicular nuclei and acidophilic cytoplasm, and few in number, interspersed singly or in small groups were seen (Fig 2). Areas with these features constituted a very small portion of the tumor. In all other parts of the tumor, irregular tubules of various sizes and cystic spaces lined by cells having vesicular nuclei and ill-defined cytoplasmic contours were seen in a loose, myxoid stroma (Fig 3). These cells, elsewhre, had the tendency of lining a surface and papillae with a loose edematons stroma. Cells lining all these different formations were cuboidal of flattened. They were usually monolayered, but in some areas, were pseudostratified (Fig 4).

With these microscopic findings, our diagnosis was "moderately differentiated SLC tumor with a predominant re-

* Department of Pathology, İstanbul medical Faculty
** Department of Histology and Embryology, İstanbul Medical Faculty

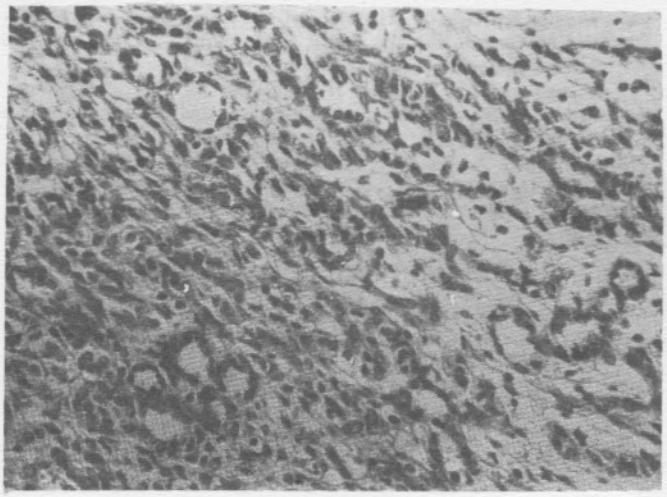

Figure 1 - Sertoli cells forming tubules and cord-like structures and in between them a stroma formed of fusiform cells (Biopsy No: 13279/90, H.E:x310)

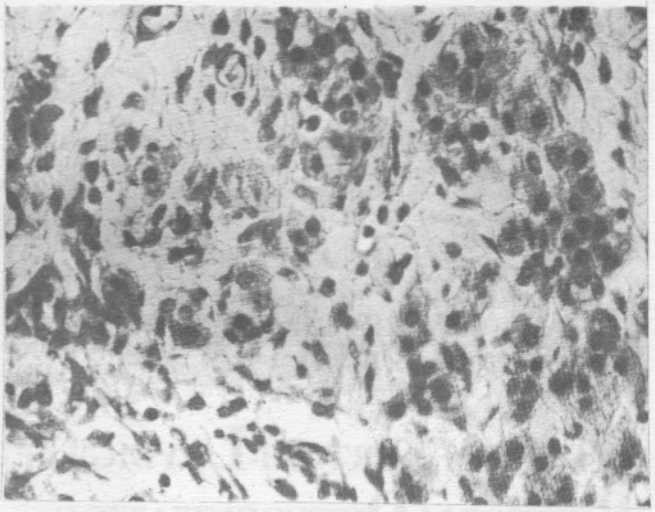

Figure 2 - Scattered single or small groups of Leydig cells (Biopsy No: 13279/90, H.E x 500)

tiform differentiation".

DISCUSSION

Rete ovarii is an embryologic remnant which, contrarily to rete testis, does not function. Morphologically, its is composed of irregular anastomosing cleft-like spaces lined by flattened and cuboidal cells (9). Fusiform-shaped cells constitute its stroma which is not in continuity with, but which has a similarity to ovarian stroma. Rete testis, the analogous of this structure in males, tubuli recti and efferent ductules are all lined by an epithelium having the same origin with the Sertoli cells. Epithelium of rete testis differentiaties from this epithelium, its cellular appearence varying from cuboidal to flattened (1). SLC tumors, histogenesis of which has not yet been clarified, originate from mature or immature cells of testis. And because of the embryologic relationship between the rete epithelium and sertoli cells, retiform differentiation can occur in SLC tumors (7).

SLC tumors occur most frequently in young women (8). Average age in cases with a predominant retiform pattern is reported as 17 (7). Our patients was also 17 years old.

SLC tumors clinically, can be acommpanied by some endocrin manifestations. They can cause virilizing and defeminizing symptoms and sometimes, to the contrary, estrogenic manifestations. Some of the SLC tumors do not have any endocrine effect (8). The patient in our case, had clitoral hypertrophy and amenorrhea as symptoms of virilization and defeminization.

SLC tumors are usually unilateral (3,4,11). They have a

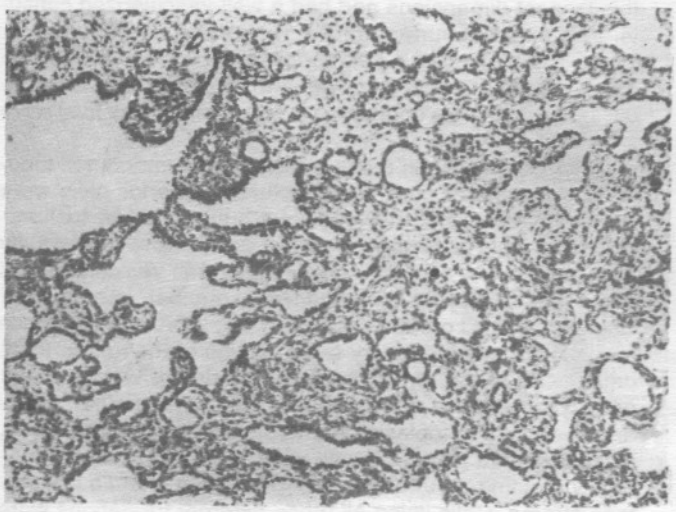

Figure 3 - Clefts and adenoid formations in different sizes in a loose and myxoid stroma (Biopsy No: 13279/90 H.Ex 125)

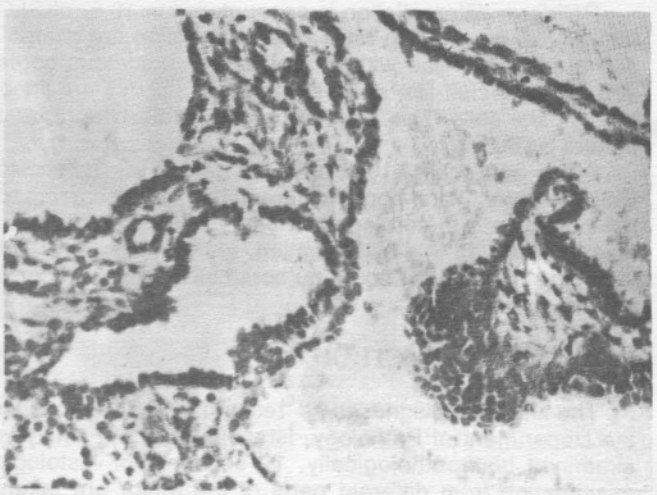

Figure 4 - Cubic and flattened cells paving adenoid formations cysts and papillary formations in a monolayered form and showing pseudostratification at one side (Biopsy No: 13279/90 H.E x 500).

soft consistency and they contain solid areas yelloish-gray in color, with cystic parts, hemorrhages and necrosis (6). There was a unilateral involvement in our case and the tumor had gross properties similar to those mentioned above.

These tumors are made up of different amounts of Sertoli cells and Leydig cells in diferent stages of differentiation (6). Retiform diferentiation is seen in 10 % of cases (12). These areas may be focal or sometiems dominant (7). Heterologous elements such as glands lined by epithelium of gastrointestinal type, areas of carcinoid tumor, skeletal muscle, cartilage and hepatoid differentiation may accompany these retiform areas (3,10,11,13). Psammoma bodies may also be seen (7). The tumor in our case showed retiform differentiation in large areas and Sertoli cells forming tubules and cords, few Leydig cells and a stroma made up of fusiform shaped mesenchimal cells. There were neither heterologous elements nor psammoma bodies in our case.

The recognittion of retiform type SLC tumors is important for the distinction of this tumor from papilary serous tumors, malignant mixt mullerian tumor with heterologous elements and endodermal sinus tumor. The first two tumors usually occur in an older age group and don't show other features of SLS tumors. Endodermal sinus tumor is a histologically more primitive tumor and stain positively with AFP (7).

The case, as being an example of a SLC tumor with a dominant retiform pattern causes the necessity for us, to search for retiform differentiation and its poportion in all SLC tumor cases in our files and in future, so as to define its influence on the biologic behaviour of these tumors.

KAYNAKLAR

1. Mostofi, FK., Price, EB.: Tumors of the Male Genital System. 2nd series. Fas 8. p. 127. Armed Forces Institute of Pathology. Washington D.C (1973).
2. Petorak, İ.: Insan embryolojisinin ana hatları s. 160-164. Yenilik yayınevi İstanbul (1980).
3. Prat, J., Young RH., Scully, RE.: Ovarian Sertoli-leydig cell tumors with neterologous elements. Cancer 50: 2465-2475 (1982).
4. Reddick, RL., Walton, LA.: Sertoli-Leydig cell tumor of the ovary with teratomatous differentiation. Cancer 50: 1171-1176 (1982).
5. Rosai, J.: Ackerman's Surgical Pathoolgy. 7 th ed. vol. II p. 1156-1159. The C.V. Mosby Comp St. Louis Toronto Washington (1989).
6. Roth, LM.: Sex Cord-Stromal and lipid cell tumors of the ovary. In: Fox H (ed): Haines and Taylor Obstetrical and Gynaecological Pathology. 3 rd ed. Vol I. p. 623-636 Churchil Livingstone Edinburg London Melbourne and new York (1987).
7. Roth, LM., Slayton, RE., Brady, LW. Blessing, JA., Johnson, G.: Retiform differantiation in ovarian Sertoli-Leydig cell tumors. Cancer 55: 1093-1098 (1985).
8. Scully, RE.: Sex Cord-Stromal tumors. In: Blaustein. A. (ed): Pathology of the Female Genital Tract. 2nd ed. p. 581-601. Springer-Verlag Nev York Heidelberg Berlin (1982).
9. Scully, RE.: Tumors of the Ovary and Maldeveloped Gonads. 2 nd series. Fas 16. p. 22. Armed Forces Institute of Pathology. Washington D.C (1979).
10. Serov, SF., Scully, RE.: Histological Typing of Ovarian Tumonrs. International Histological Classification of Tumours. World Health Organization Geneva (1973).
11. Young, RH., Prat, J., Scully, RE.: Ovarian Sertoli-Leydig cell tumors with heterologous elements. Cancer 50: 2448-2456 (1982).
12. Young, RH., Scully, RE.: Ovarian Sertoli-Leydig cell tumors with a retiform pattern. Am J Surg Pathol 7: 755-771 (1983).
13. Young, RH., Perez-Atayde, AR., Scully RE.: Ovarian Sertoli-Leydig cell tumor with retiform and heterologous components. Am J Surg Pathol 8: 709-718 (1984).