Ovarian teratomas

An analysis of 134 cases

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Summary: All ovarian teratomas observed from 1979 to 1989 in the Institute of Pathology University of Padua are revised. Mature and immature teratomas are analyzed separately because of their different prognoses.

Key words: Ovary; Teratoma.

INTRODUCTION

All ovarian teratomas observed from 1979 to 1989 in the Institute of pathology, University of Padua were analyzed in order to evaluate the structure, the site, the age of presentation and pathological associations.

Ovarian teratomas constitute between 5 and 25% of all ovarian neoplasms and are bilateral in 10 to 15% of cases ([1]).

The majority are cystic and mature and constitute the most common ovarian tumor in childhood ([10]). Solid or polycystic teratomas are much rarer: 0.2% of all ovarian tumors ([1-7]).

Over 98% behave in a benign fashion and exhibit the greatest variety of well differentiated tissues (ectodermal derivatives, mesodermal structures, endodermal derivatives) ([3-9]).

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Immature teratomas of the ovary contain tissues derived from all three germ layers, although neuroectodermal derivatives in different stages of embryonic differentiation predominate over those of mesenchymal and endodermal origin ([5-6]). They have completely different evolution and prognosis.

MATERIALS AND METHODS

134 cases of ovarian teratomas were analyzed. The number of slides available in each case varied from 3 to 10 for the ovarian tumor and from one to 5 for the peritoneal implants. Both the primary tumors and the implants were graded according to the criteria of Norris ([7]).

RESULTS

In our case-series 129 were mature cystic teratomas, 3 struma ovarii, 2 immature teratomas and 2 mature teratomas with glial peritoneal deposits.

The age at presentation ranged from 8 to 71 years (mean age 35 years). In the first decade there were 3 cases, 10 in the second, 43 in the third, 30 in the fourth, 17 in the fifth and 14 in the sixth.

These tumors were right unilateral in 75 cases and bilateral in 9 cases. On microscopic examination we found skin in 90% of the mature teratomas, respiratory tissue in 10% of cases, cartilage in 20% of cases, bone in 5%, tooth in 5%, gastrointestinal tract tissue in 7% of cases.

There was abundant glial tissue, ependyma, choroid plexus and nerve ganglion. All tissues were mature, well differentiated without signs of anaplasia. In the present series of cases two teratomas were associated with peritoneal implants exclusively composed of mature glial tissue; these nodules varied from 2 to 7 mm and showed a strip of mesothelium with underlying glial tissue (the microscopic examination revealed grade 0 peritoneal glial implants).

The immature teratomas were two and chiefly composed of tissue of primitive mesoblastic type with stellate cells within an abundant basophilyc matrix, cartilage and bone on only one slide. There were no other mesenchymally derived tissues such as striated muscle or fat. The epithelial derivatives were variable: lung of the glandular period, early intestine and esophagus. One patient in early stage (c) is alive after 7 years, one in advanced stage died after 1 year.

The most important pathological associations which we found were: follicular cysts (69.53%), endometriosis (14.64%), CIN 3 (0.5%), invasive epidermoid carcinoma of the cervix (1.3%), mucinous cystadenoma of the other side (1.3%), and minimal Brenner tumor (0.5%).

CONCLUSION

Mature teratomas should be composed entirely of adult tissues derived from all three germ layers. The prognosis is excellent even if peritoneal deposits are present. The survival of all patients with ovarian teratomas which produced glial peritoneal deposits suggests that a conservative surgical approach without therapy aimed at the implants, is adequate for effecting a cure ([11]).

From the analysis of malignant teratomas we can confirm that prognosis is strictly conditioned by stage at the first diagnosis.

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