Micrometastasis in Retroperitoneal Lymph Nodes, 2 Cases of Dysgerminoma and Review

Víctor E. Valdés Pino1*, Yazzmin Ballesteros Montenegro1, Maricruz Rivera Hernández2, German Maytorena Cordova1, Juan Landa Mejía1 and Víctor Valdés Pino Gomez1

1Department of Oncology Gynecology, Gynecological and Obstetrician Hospital 4, Mexico
2Department of Pathologist, Gynecological and Obstetrician Hospital 4, Mexico
3Department of Oncology Surgeon, Gynecological and Obstetrician Hospital 4, Mexico

Abstract
We reported 2 cases of micrometastasis in dysgerminoma; specify incidence of micrometastasis is unknown. Many times when micrometastasis is reported, the variability is constant, sometimes is reported in nodal sentinel dissection, or systematic lymphadenectomy, or with immunohistochemistry. We use the definition of micrometastasis agree with AJCC (American Joint Committee on Cancer).

We show 2 patients with retroperitoneal nodal micrometastasis; omentectomy, cytology, and remainder product of surgery was negative to metastasis. They received chemotherapy (4 times BEP) with good tolerance; both are alive without symptoms. We encourage sparing surgery for endocrinal and reproductive function always. Nowadays micrometastasis is an advice to adjuvant treatment, but maybe with more reports, we can improve ower medical care, perhaps target therapy, vigilance or use a low dose of chemotherapy. We need more reports on this subject.

Ower oncology gynecology group encourage systematic pelvic and paraaortic lymphadenectomy or sentinel node dissection in dysgerminoma. With all prognostic factors we can tailor adjuvant treatment in germinative tumors. In the future maybe lymph node ratio, or new classification on nodal metastasis by FIGO (International Federation of Gynecology and Obstetrics) or AJCC, could improve ower knowledge on the biological behavior of micrometastasis.

Keywords: Micrometastasis; Dysgerminoma; Nodal retroperitoneal metastasis

Introduction
Ovarian dysgerminomas are infrequent and account for only about 2% of all malignant ovarian neoplasm [1]. They are female analogous to male seminoma and most commonly arise in adolescents and young women [2]. Seventy-five percent of patients with dysgerminoma present with stage I at diagnosis and bilateral ovarian involvement occur in 10% to 15% [3]. Lymph node metastasis found in 28% of patients with ovarian dysgerminoma and was an independent predictor of poor survival [4]. On germinal ovarian cancer, dysgerminoma is most frequently related with nodal metastasis.

Dysgerminoma appears similar to; 80% to 90% are unilateral and grossly appear as tan-colored, lobulated, firm mass. It is composed of undifferentiated germ cells and large vesicular cells dispersed in sheets or cords interspersed by scant fibrous stroma, with a variable degree of atypia. Mature lymphocytes and occasional granulomas infiltrate the fibrous stroma. These malignant cells usually express CD117, OCT3, and OCT4 [5].

More than germinative malignant tumors 90% developed in gonads, and 10% are extragonadal, they are growing in retroperitoneal, mediastinal or central nervous system [6].

Dysgerminoma has an excellent response to chemotherapy; those that have extended beyond the ovary can often be cured, with overall survival of greater than 80%. In treating dysgerminoma, surgery is not only therapeutic but also required for diagnosis and staging, with a scope of procedure dependent on intraoperative findings and patient’s desire whether or not she wants to maintain fertility or avoid exogenous estrogen [7,8].

Ovarian dysgerminoma is highly sensitive to platinum-based chemotherapy [9,10]. Adjuvant chemotherapy was associated with significant improvement in DFS (HR, 0.09; 95% CI, 0.01–0.84; P=0.034). The benefit and the risk of aggressive cytoreductive surgery for metastatic disease must...
be carefully weighed for this tumor. Even leaving residual disease after cytoreductive surgery in patients with advanced stage, they will have a long-term outcome with modern cisplatin-based adjuvant chemotherapy [10,11].

Cases

In our hospital, micrometastasis is established like a cluster from 0.2 mm to 2 mm in nodal metastasis [12]. We systematically performed lymphadenectomy paraaortic and pelvic in ovarian cancer or nodal sentinel biopsy with blue dye (and standing surgery).

We show 2 cases with micrometastasis in a service of gynecology oncology.

Case 1

Female patient 22 years old, no cancer family history, bachelor scholarship, no surgeries, no Chronic disease. No pregnancy, no contraceptive method. She begins 6 months before to the first appointment in gynecology oncology, with abdominal perimeter growing and menstrual bleeding pain. Laboratories result Ca125 117, AFP 0.99; DHL 889. Ultrasound with tumor irregular 23.6 cm × 19.7 cm × 19.1 cm.

We performed a surgery with transoperatory evaluation of tumor. The result was dysgerminoma; we used blue dye with retroperitoneal sentinel node dissection. Dysgerminoma with micrometastasis in retroperitoneal node dissection, one node with micrometastasis, 16 nodes was the total resected.

Case 2

Female patient 26 years old, a grandmother with colon cancer, bachelor not ended, the patient do not specify a time, no pregnancy story, no anticonception method. She develop cronic abdominal pain 4-5 months before to get medical attention, medical exploration shows us a tumor 10 cm in pelvis-abdomen. Ultrasound reported ovarian tumor 97 mm × 77 mm, mixed but solid in the majority. Laboratoris result DHL 1,049, beta HGC 18. Transoperatory reported dysgerminoma, on tumor; transoperatory sentinel nodal dissection, do not report tumor (with blue dye) but in definitive result 1 nodal with micrometastasis. Also, pathologist report 19 nodal without metastases.

We are in a step of validation on sentinel node dissection. We used to send the sentinel nodal metastasis to transoperatory (and the pathologist give us a preliminar result) and 20 days later, pathologist report definitive, in both cases micrometastasis in one nodal. Also reported no metastasis in omentum. Ovarian tumors were in both cases dysgerminoma.

Pathology department cut 7 or 8 times each sentinel nodal; in a systematic lymphadenectomy just 1 time nodal is assess.

Both patients receive BEP bleomycin, etoposide and cisplatin 4 times, with good tolerance; they are alive without symptoms 24 months and 39 months, respectively.

Discussion

The treatment principle for dysgerminoma of the ovary includes surgery with optimal cytoreduction for advanced disease and adjuvant therapy in patients with the extraovarian disease. The majority of patients (76.9%) in Husani’s report underwent fertility-sparing surgery, and 44 (67.7%) received postoperative chemotherapy or radiotherapy. Only eight (12.3%) patients underwent complete surgical staging including omentectomy, cytology, and lymph node sampling/dissection [13]. Like Husani over oncology gynecology service encourage the fertility-sparing surgery but, systematically standing surgery is performed always: omentectomy, cytology, salpingo-oophorectomy and nodal evaluation with sentinel nodal dye and or systematic lymphadenectomy retroperitoneal and pelvic [14].

The germinates ovary tumors in our services, receives standing...
comprehensive surgery, in a different treatment than Vicus report, they do not perform the systematic standing in his report they only performed 4 standing operations [15].

Sentinel lymph node dissection is becoming increasingly popular in the management of gynecologic cancers.

In general, lymph nodes involved with cancer metastasis fall into one of 3 categories based on the size of metastasis; ITC (Isolated Tumoral Cells), 0.2 mm, micrometastasis, 0.2 mm to 2 mm and macrometastasis, 2 mm [12].

Regardless of our enhanced ability to detect nodal micrometastasis, the impact of their presence on prognosis remains unclear [3]. Probably the 9th edition of the AJCC staging manual will contain definitive data on this important subject (nodal micrometastasis) [16].

Low volume metastasis by producing VEGF (Vascular Endothelial Growth Factor) and other proangiogenic molecules, residual tumor cells can induce an “angiogenic switch” in avascular micrometastases that is necessary to convert them into macrometastases. Micrometastases might be perhaps more sensitive to VEGF depletion than large metastases, where VEGF is only one of the multiple factors perpetuating tumor angiogenesis. Anti-VEGF treatment could block tumor dissemination and inhibit the early growth of micrometastatic. This affirmation could be an propose of treatment, but we need more clinical trials on micrometastasis [17].

First nodal level for ovarian metastasis is the retroperitoneal area, (paraortic) when we practice the nodal sentinel dissection, always wait how many nodes dye and performed the resection; we can avoid the systematic dissection or continued with it. We send to transoperative evaluation and finished the surgery or continue systematic lymphadenectomy (we are in a process to validation).

We encourage the comprehensive surgery or sentinel node dissection in germinative ovarian cancer particularly in dysgerminoma, because only in this way that we can know all prognostic factors on primary cancer, nodal metastasis; and sometimes we can avoid chemotherapy and radiotherapy and those toxic effects on patients. The systematic retroperitoneal lymphadenectomy can remove micrometastasis or in those cases give us a positive chemotherapy indication treatment.

Micrometastasis most of the times are reported in a context of sentinel nodal dissection, but Suzuki and coworkers reported like us in comprehensive surgery but they used immunohistochemical staining. Reports of micrometastasis in ovarian cancer conditioned an adjuvant treatment [18].

But a single micrometastasis in ovarian cancer on retroperitoneal with lymph node ratio suitable, should be always necessary adjuvant treatment?

We let is the question open, and maybe in the future, we can answer, with many reports on micrometastasis in ovarian cancer. Nowadays if a patient has nodal metastases, they need chemotherapy in dysgerminoma [19]; but, if the patients have a systematic retroperitoneal and pelvic lymphadenectomy and comprehensive standing surgery or a sentinel nodal biopsy validate, with negative to macrometastasis only micrometastasis, the patients do not need adjuvant treatment?

In over current surgical practice, we performed systematically lymphadenectomy pelvic and retroperitoneal or nodal sentinel biopsy with blue dye, in ovarian cancer, in dysgerminoma tumor [14].

Dysgerminoma is the tumor with more likely to develop nodal metastases we perform and recommended, comprehensive surgical cyto reduction with sparing uterus and ovary or partial ovary, omentectomy, retroperitoneal sentinel dissection and or lymphadenectomy paraaortic and pelvic.

Furthermore, we do not agree when a patient is affected by a bilateral ovarian disease, we try to perform a sparing fertility surgery, Zogy and coworkers do not preserve ovary and uterine corp, and the uterus and just partial contralateral ovary were affected by the tumor [19,20]. Always we propose to preserve the reproductive and endocrinial function.

Most of the times dysgerminoma grow slowly, but rarely need emergency surgery by torsion [21]. Torsion of ovarian tumors mostly occurred in the reproductive age group, more commonly on the right side, and only approximately 8% of masses were malignant [22]. The incidence of micrometastasis in dysgerminoma is not specifying.

We need more reports on micrometastasis and ovarian cancer and review overall survival. What is behavior with metachronous micrometastasis or associated with tumoral cells isolated, or synchronous metastasis, those questions do not have answer by this moment. We need more experience and reports on micrometastasis.

References


