GAVIN PUBLISHERS

Journal of Oncology Research and Therapy

Avilés A, et al. J Oncol Res Ther: JONT-140.

DOI: 10.29011/2574-710X. 000040

Research Article

Primary Ovary Diffuse Large B-Cell Lymphoma

Agustin Avilés[1*], Maria-Jesus Nambo[2], Natividad Neri[1]

[1]Oncology Research Unit, Oncology Hospital, National Medical Center, IMSS, Mexico

[2]Department of Hematology, National Medical Center, IMSS, Mexico

[*]**Corresponding author:** Agustin Avilés, Oncology Research Unit, Oncology Hospital, National Medical Center, IMSS, Avenida Cuauhtemoc 330, Colonia Doctores, 06725, Mexico. Email: aamiranda12@gmail.com

Citation: Avilés A, Nambo MJ, Neri N (2017) Primary Ovary Diffuse Large B-Cell Lymphoma. J Oncol Res Ther: JONT-140. DOI: 10.29011/2574-710X. 000040.

Received Date: 24 November, 2017; **Accepted Date:** 19 December, 2017; **Published Date:** 28 December, 2017

Abstract

Objective: We treat to identify the prognosis factors, better therapeutic approach and late toxicities in patients with primary lymphoma of ovary, because these factors has not identified in this rare presentation of diffuse large B-cell lymph.

Material and Methods: We review the database of our institution and found 44 cases of this rare presentation of lymphoma, we revised the pathological criteria, the importance of genotype, treat to identified prognostic factors and analyze the impact of treatment.

Results: Primary ovary lymphoma is a neoplasm with median age < 60 years, we cannot identify any prognostic factors as: tumor size, stage. I vs II, serum markers as lactic dehydrogenase and beta 2 microglobulin, also did not have any prognostic significance; most patients were low-risk according to international prognostic index, the type of surgery did not influence outcome and conventional chemotherapy. CHOP (cyclophosphamide, doxorubicin, vincristine and prednisone),after surgery, is sufficient to achieve > 90% of patients alive at more than 5 years. The addition of rituximab (RCHOP) did no show a benefit to these patients.

Conclusion: Primary ovary lymphoma, in early stages is a neoplasm that can be considered of good prognosis, because with standard treatment, overall survival could be considered excellent.

Keywords: Extranodal Non-Hodgkin's Lymphoma; Ovary Lymphoma; Ovary Lymphoma; Treatment, Ovary Lymphoma Prognostic Factors

Introduction

Lymphomas presenting as ovarian tumors are uncommon and may involve the ovary as a primary neoplasm arising in the ovary, or, secondarily, as the initial manifestation of occult nodal disease, or a manifestation of widely disseminated systemic lymphoma [1,2]. During some years, the category of Primary Ovarian Lymphoma (POL), was controversial; however, there are cases reported of malignant lymphoma localized to the ovary, that were treated successfully with surgical excision alone, with no evidence of systemic disease or subsequent relapse with prolonged clinical follow-up [3]. Subsequently, Fox et, have suggested three criteria for the diagnosis of primary ovarian lymphoma: a) tumor has confined to the ovarian regional lymph nodes or adjunctive organs at the time of diagnosis, b) bone marrow and peripheral blood have no contained any abnormal cells, and c) extraovarian disease appear later, there be a few months between the time of ovarian and extraovarian lesions [4].

Most reports on POL have been single cases reports, or report only a small series of cases; moreover, most cases were classified with different pathological criteria, treated with different therapeutic approaches and in most cases longer follow-up is not available, mixed stages: I and II vs III and IV, thus, is very difficult to define if the presence of POL have a worse prognosis compared to nodal disease [5-11]. we prompted to retrospectively review the outcome of patients with POL, on early stages (I,II), because we considered that stages III and Iv will be considered as disseminated disease. That were treated with the same schedule in our institution, with a longer follow-up.

Patients and Methods

We reviewed the clinical charts of the patients diagnosed as non-Hodgkin's lymphoma; and select the cases of POL, criteria diagnosis were as follow-up: pathological diagnosis of diffuse

large B-cell lymphoma according to the criteria of the World Health Organization.; immune histochemical studies were performed on fixed paraffin-embebed section of all cases, the antibodies used were CD5, CD10,CD20,CD45,CD3, MUM1, BCL-6, BCL-2, TdT, Ki67,, stages IE or II, previously untreated, and all patients were treated a single center and have a minimal follow-up of 5-years.

Initially, all patients undergoing unilateral oophorectomy or total abdominal hysterectomy with bilateral salpingo-oophorectomy, according to the surgeon decision at the time of surgery, because all cases were clinically considered as ovary cancer, and confirmation of POL was performed after pathological studies. All patients undergoing staging studies: complete blood counts and platelets, serum chemistry, serum determinations of Lactic Dehydrogenase (LDH), beta 2 microglobulin (B2M), was defined CA125, immunodeficiency virus test, hepatitis B and C. Computed tomography of neck, thorax, abdomen and pelvis, left-ventricular cardiac function (normal values > 50%).

After surgery, in all cases chemotherapy were administered: CHOP (cyclophosphamide, doxorubicin, vincristine and prednisone), or R-CHOP (rituximab + CHOP) at standard doses, every 21 days by 6 cycles. Additional radiotherapy or maintenance treatment were not considered. After treatment, the patients were followed every three months during the first 2 years, every 6 months from 3° to 5° years, and subsequently annual review until last follow-up (December 2016) or death. Each visit includes physical examination, serum chemistry, determinations of LDH and B2M, complete blood counts and pelvic ultrasound. Response criteria, complete response was defined as the disappears of all clinical and radiological evidence of disease, and normalization of any laboratory test that were abnormal at beginning.

Ethical statement: although the study was retrospective, it was approved by our Ethical and Scientific Committee (HO:88-15R1), and patients or family members signed and approve the revision of files. Progression-Free Survival (PFS) was measured from the beginning of treatment to disease-progression, relapse, or therapy related-death; Overall Survival (OS) was defined from the date of diagnosis to date of death from any cause. The association between clinical characteristics and response was analyzed by the Fisher's exact test. Survival curves were analyzed by the Kaplan and Meier method and compared with the log-rank test. Factors showing $p < 0.02$ in a univariate analysis were incorporated into a logistic regression or a Cox proportion haxard ratio. Analysis were two sided, and statistical significance was defined a p value of 0.05.

Results

Between 1988 to 2011, 11,856 cases of non-Hodgkin's lymphoma have been diagnosed in our institution; and 44 cases (0.3%) fulfilled the criteria entry to be considered as POL as above mentioned, two additional cases were diagnosed as Burkkit lymphoma but they were excluded because have a clinical and biological behavior different. [12-15]. Table 1 show the clinical and laboratory characteristics of these patients.

Most cases have low or low-intermediate clinical risk according to the International Project Index; tumor mass between 5 to 10 cm, unilateral presentation, good performance status and were considered to be germinal center B(GCB) genotype. Taking in consideration that definitive diagnosis and stage were performed after surgery, the complete response rate was achieved in 42 cases (95%); two cases have residual disease in the surgical edges and were considered partial response.

Relapse was observed in 7 cases (15%), between 18 to 61 months. Actuarial curves at 5-years show that PFS was 85% (95% Confidence interval (CI): 78% - 99%). Relapse was observed in another extranodal site in 2 cases and as disseminated disease in 5 cases; no central nervous system infiltration was observed. Salvage chemotherapy regimens (ESHAP: etoposide, metil-prednisolone, high doses cytosine arabinoside and platinum) was administered in 3 cases, ESHAP followed by stem cell transplant was employed in 4 patients. Second complete response was achieved in 3 patients (2 and 1, respectively).

Thus, actuarial 10-years OS was 91% (95%CI:88% - 104%). Surgery did not show any acute or late complications. Hematological complications secondary to chemotherapy were: granulocytopenia grade II: 26 episodes (6%), thrombocytopenia grado II: 8 episodes (3 %). Rituximab was associated with anaphylaxis grade II in 12 episodes (12%), but all were well controlled. Secondary neoplasm or acute leukemia has not been observed. Statistical analysis did not show any difference significantly between the prognosis factors that were analyzed, in some cases the comparative was too small to perform the study.

Discussion

POL remain to an unusual presentation of non-Hodgkin's lymphoma, in our institution with a coverage population of 30,000,00, only 46 cases has been observed in a non-Hodgkin's population of 11,856 cases (0.3%). Moreover, our population of PLO is different to other publications, probably we have a homogenous population, that predominantly have low- or low-intermediate clinical, risk, unilateral presentation, good performance status, serum levels of LDH and B2M that has been considered as a poor prognostic factor; also most patients have a good genotype (GCB). Thus, we cannot confirm the worst prognosis that has been considered to patients with POL.

Clinical presentation of POL was similar to no-lymphoma cancer of the ovary, that in most cases require the use of debulking surgery; we can observe that unilateral oophorectomy and Bilateral salpingoophorectomy did not influence the prognosis of these patients, but, also no differences were observed in relationship to surgery-related complications.

Multiple therapeutics schedules has been proposed: surgery, radiotherapy, chemotherapy (with or without rituximab), and no clear differences have been demonstrated the superiority of one of these regimens. We treated our patients with surgery, and on cases we administered anthracycline-based chemotherapy, with a excellent outcome, overall response rate was 100%, and OS was 91%, and probably most of these patients will be considered cured. No differences were observed between CHOP or RCHOP, but the number of cases on RCHOP regimen is too small to drawn statistical differences.

More aggressive histology has been reported in POL, specifically Burkitt's lymphoma, these clinical presentations show a more advanced stage, a response to standard treatments for Burkitt's lymphoma have a poor outcome [12-14]. Cao et al reported a high possibility that POL can be relapse at central nervous system and proposed the use of prophylaxis measures [15] in our experience we can no validate these results.

We conclude that POL, remain to be a rare presentation of non-Hodgkin's lymphoma, have a better prognosis that other extranodal presentation, we suggest that the better treatment is surgery followed by chemotherapy, because an excellent outcome was observed in our cases, without acute or late toxicities.

Key Message

Primary ovary lymphoma is a rare presentation, thus clinical course, prognostic factors, treatment has not been defined, we treat to response these questions with the present report.

Funding Statement

The work was performed with the owner resources of the Mexican Institute of Social Security and did not receive funds or grants for external source.

Authors Contribution

AA, MJB, NN: drafting the article, analyze and interpreted the data; drafting critically for the intellectual content and approved the final version to be published.

References

1. Yadav BS, George P, Sharma SC, Gorsi U, McClennan E, et al. (2014) Primary non-Hodgkin's lymphoma of the ovary. Sem Oncol 41: e19-e30.
2. Ambulkar I, Nair R (2003) Primary ovarian lymphoma. Report o cases and review of literature. Leuk Lymphoma 44: 825-827.
3. Monteroso V, Jaffe E, Merino MJ, Medeiros LJ (1993) malignant lymphoma involved the ovary. Am J Surg Pathol 17: 154-170.
4. Fox H, Langley FA, Govan ADT, Hill AS, Bennett MH (1988) Malignant lymphoma presenting as a ovarian tumour. Br J Obstet Gynecol 95: 386-390.
5. Ahbeddou N, Fetoni M, El-Khandussi BE, Errihani LI (2011) Rituximab CHOP for successful management of diffuse large B-cell lymphoma of the ovary. Arch Gynecol Obstet 283: 1173-1174.
6. Bartiya R, Kumar R, Mlanik M, Singh UR (2016) Primary non-Hodgkin lymphoma of the 17ovary. J Clin Diag Res 10: ej10-ej11.
7. Yun J, Kim SJ, Won JH, Choi CW, Eom HS, et al. (2010) Clinical features and prognostic relevance of ovarian involvement of non-Hodgkin's lymphoma. Leuk Res 84: 1175-1179.
8. Hu R, Miao M, Zhang R, Li Y, Li J, et al (2012) Ovary involvement of diffuse large B-cell lymphoma. Am J Case Rep 13: 96-98.
9. Zhao XY, Hong XN, Cao JN, Leaw S, Guo Y, et al. (2011) Clinical features and treatment outcome of 14 cases of primary ovarian non-Hodgkin' s lymphoma. Med Oncol 25: 1559-1564.
10. Dimopoulos MA, Daliani D, Pugh W, Gershenson D, Cabanillas F, et al. (1997) Primary ovarian non-Hodgkin's lymphoma. Outcome after treatment with combination chemotherapy. Gynecol Oncol 64: 446-450.
11. Senol T, Dugere E, Kahramanuglu I, Geduk A, Kole E, et al. (2014) Five cases of non-Hodgkin's lymphoma of the ovary. Case Rep Obstet Gynecol 39: 2758.
12. Briseño-Hernandez J, Quezada-Lopez DR, Castañeda-Chavez A, Macìas -Amezcua MD, Pintor-Belmont JC (2014) Linfoma tipo Burkitt bilateral de ovario. Cir Cir 82: 212-218.
13. Sacham-Abulafid A, Nagar R, Eitan E, Levavi H, Sabah G, et al. (2013) Burkitt lymphoma of the ovary. Acta Haematol 129: 169-174.
14. Bianchi P, Torre F, Vitali M, Cozza G, Matteoli M, et al. (2013) An atypical presentation of sporadic ovarian Burkitt lymphoma. J Ovarian Res 6: 46.
15. Cao XY, Zhang W, Dan MH, Duan MH, Shen T, et al. (2014) Patients with primary diffuse large B-cell lymphoma of female genital tract have high risk of central nervous relapse. Ann Hematol 93: 1001-1005.