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Case Report

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NON-HODGKIN'S LYMPHOMA DIAGNOSED IN THE PUERPERIUM: A CASE REPORT

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Abstract

A 28-year-old primigravida presented in the third trimester with a sore throat and cervical swelling. She was initially treated for an upper respiratory tract infection. At 41 weeks, she delivered vaginally due to oligohydramnios. Her symptoms progressed during the puerperium, and imaging revealed cervical lymphadenopathy. Biopsy confirmed diffuse large B-cell lymphoma (non-germinal center phenotype). Chemotherapy was initiated, and clinical follow-up is ongoing. Immunologic changes during pregnancy may increase susceptibility to lymphoproliferative disorders, particularly Hodgkin lymphoma. However, the diagnosis of non-Hodgkin lymphoma (NHL) during pregnancy or the postpartum period is exceedingly rare and often delayed. Case reports remain valuable in increasing clinical vigilance and improving early detection. A comprehensive systemic evaluation is warranted in pregnant or postpartum patients presenting with persistent lymphadenopathy. Lymphoma should be considered in the differential diagnosis of cervical and submandibular masses during this period. Early recognition and treatment of NHL in pregnancy can significantly reduce maternal morbidity and mortality.

Keywords: Puerperium, non-Hodgkin lymphoma, pregnancy.

Introduction

Lymphoma comprises a group of malignant neoplasms originating from lymphocytes and is broadly classified as Hodgkin lymphoma (HL) or non-Hodgkin lymphoma (NHL). HL is the most frequently encountered type during pregnancy, although its etiology remains poorly understood. [1]

NHL is a rare entity in pregnancy and is the third most common neoplasm in the head and neck region. Several classification systems exist, with the World Health Organization (WHO) system being the most widely used.[2] NHL may present in nodal or extranodal locations, with extranodal involvement seen in approximately 25% of cases.[3] B-cell lymphomas account for 85% of NHLs, with diffuse large B-cell lymphoma (DLBCL) representing the most prevalent and aggressive subtype. [4]

Risk factors for NHL include Epstein-Barr virus infection, HIV/AIDS, organ transplantation, autoimmune diseases, and chronic inflammation.[5] Pregnancy-associated immunemodulation may also contribute to the pathogenesis or progression of lymphoma. Notably, 90% of NHLs diagnosed in pregnancy are already advanced-stage at presentation. Treatment typically involves chemotherapy and/or radiotherapy, though cytotoxic agents pose teratogenic risks, particularly during the first trimester. [6]

Multidisciplinary management involving hematology, oncology, obstetrics, and neonatology is essential for optimizing maternal and fetal outcomes.

Case Report

A 28-year-old primigravida at 37 weeks and 5 days of gestation presented to the otorhinolaryngology department with complaints of a sore throat, dysphagia, and right-sided cervical swelling. Clinical evaluation revealed right cervical lymphadenopathy and tonsillitis, with normal bilateral otoscopic findings. She was prescribed ampicillin for a presumed upper respiratory tract infection. Despite treatment, symptoms persisted, and further antibiotics were prescribed over the following three weeks.

At 41 weeks of gestation, she underwent labor induction for oligohydramnios and delivered a healthy female neonate weighing 3320 grams, with Apgar scores of 9 and 10 at one and five minutes, respectively. Postpartum vitals were stable, and she was discharged 24 hours later without any ongoing complaints.

The patient re-presented post-discharge with persistent neck swelling. Neck ultrasonography showed a 35×18 mm lymphadenopathy in the right cervical and jugular chains near the submandibular gland, featuring a fatty hilum, thickened cortex, lobulated borders, and minimal vascularity. Contrast-enhanced diffusion-weighted

MRI demonstrated a 25×27×45 mm mass with necrotic features, diffusion restriction, and heterogeneous contrast enhancement extending from the right Rosenmüller fossa to the piriform sinus. An additional 26×18×32 mm lymph node at level 2A exhibited similar features. Lymphoproliferative malignancies, particularly lymphoma, were considered.

A Tru-Cut biopsy was performed on the suspicious lymph node three days later. Histopathology confirmed diffuse large B-cell lymphoma, non-germinal center subtype, with immunohistochemical staining positive for CD79a, MUM1, PAX8, and c-Myc (5%). Negative markers included CD3, CD20, CD23, BCL2, BCL6, CD10, CD138, and ALK. The Ki-67 proliferation index was markedly elevated at 95%.

Chemotherapy with R-CHOP (rituximab, cyclophosphamide, doxorubicin, vincristine, and prednisolone) was initiated under the care of the medical oncology team, with plans for six cycles. Follow-up and treatment are ongoing. No problems were detected in newborn follow-ups. The patient who started chemotherapy was advised not to breastfeed the baby.

Written and verbal consent was obtained from the patient for the presented case.

Discussion

The literature on pregnancy-associated NHL is limited to case reports and small series, complicating efforts to characterize the disease's course.[7] NHL during pregnancy is associated with poor obstetric outcomes, likely due to diagnostic delays caused by physiological immunosuppression and symptom overlap with benign conditions.

In this case, the initial presentation mimicked an upper respiratory tract infection. Antibiotic therapy delayed further investigation, and a definitive diagnosis was made on postpartum day 20. A review of five pregnancy-associated NHL cases between 2010 and 2022 found a diagnostic delay ranging from 15 to 188 days, with a mean of 30 days. [8]

Diagnosis during pregnancy is challenging, particularly in the absence of systemic symptoms. Imaging with ultrasonography and MRI is preferred due to safety profiles. PET-CT, while highly sensitive, is contraindicated in pregnancy due to fetal radiation exposure and is generally reserved for the postpartum period. Biopsy remains the gold standard and is considered safe during pregnancy. The R-CHOP regimen can be administered during the second and third trimesters but should be avoided in the first trimester due to teratogenicity. Radiotherapy is typically deferred until postpartum unless surgically required for life-threatening complications, in which case fetal shielding is critical.

Among 80 patients with B-cell NHL diagnosed between 1986 and 2019, 57 (71%) had DLBCL, with chemotherapy initiated in 68% of cases.[9] Rituximab plays a key role in treatment but carries risks of neonatal B-cell depletion, rendering its use in pregnancy controversial.

Prognosis has improved with timely diagnosis and appropriate management, with a five-year progression-free survival rate of approximately 75%. A meta-analysis revealed a 6-month maternal survival rate of 53%, with treatment administered antepartum or postpartum in 45% of cases each.[10]

Effective management requires multidisciplinary coordination to ensure both maternal and fetal safety and optimize therapeutic outcomes.

Pregnancy can obscure and delay the diagnosis and treatment of NHL. Systemic evaluation should be conducted in pregnant and postpartum women presenting with persistent cervical swelling or constitutional symptoms. Persistent lymphadenopathy warrants consideration of lymphoma in the differential diagnosis. Early diagnosis and a multidisciplinary management approach are vital to improving maternal and fetal outcomes and reducing morbidity and mortality.

Ethical Considerations: Consent was obtained from the patient for the case report.

Conflict of Interest: The authors declare no conflict of interest.

References

1. Macfarlane GJ, Evstifeeva T, Boyle P. International pat-terns in the ocuurence of Hodgkin's disease in children and young adult males. Int J Cancer. 1995;61:165-9.
2. Singh R, Shaik S, Negi BS, Rajguru JP, Patil PB, Parihar AS, Sharma U. Non-Hodgkin's lymphoma: a review. Journal of family medicine and primarycare. 2020; 9(4):1834-40.
3. Bowzyk Al-Naeeb A, Ajithkumar T, Behan S, Hodson DJ. Non-Hodgkin lymphoma. BMJ. 2018;362:k3204.
4. Mezger NC, Feuchtner J, Griesel M, Hämmerl L, Seraphin TP, Zietsman A, Kantelhardt EJ. Clinical presentation and diagnosis of adult patients with non-Hodgkin lymphoma in sub-Saharan Africa. British journal of haematology. 2020; 190(2): 209- 21.
5. Meena JP, Gupta AK, Parihar M, Seth R. Clinical profile andoutcomes of non-Hodgkin's lymphoma in children: A reportfrom a tertiary care hospital from India. Indian J Med PaediatrOncol. 2019; 40:41–7.
6. Zayac AS, Egini O, Palmisiano ND, Evens AM. Lymphoma and leukemia occurring during pregnancy. In Seminars in Perinatology. 2025; 49(2): 152041.
7. Horowitz NA, Benyamini N, Wohlfart K, Brenner B, Avivi I. Reproductive organ involvement in non-Hodgkin lymphoma during pregnancy: a systematic review. The Lancet Oncology. 2013;14(7), e275-82.
8. Liu H, Dai YM. Clinicalanalysis of 7 cases of pregnancy with non-Hodgkin lymphoma. Zhonghua fu chan ke zazhi. 2023; 58(3), 207-12.
9. Maggen C, Dierickx D, Cardonick E, MhallemGziri M., Cabrera-Garcia A., Shmakov RG. International Network on Cancer Infertility Pregnancy (INCIP). Maternaland neonatal outcomes in 80 patients diagnosed with non-Hodgkin lymphoma during pregnancy: results from the International Network of Cancer, Infertility and Pregnancy. British journal of haematology. 2021; 193(1), 52-62.
10. Horowitz NA., Benyamini N, Wohlfart K, Brenner B, Avivi I. Reproductive organ involvement in non-Hodgkin lymphoma during pregnancy: a systematic review. *The Lancet Oncology*. 2013;14(7), e275-82.