Disseminated Burkitt’s-like lymphoma during pregnancy

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The occurrence of Burkitt’s-like lymphoma (BL) during pregnancy is rarely diagnosed and its outcome is poor. A case of BL localized in the uterus, ovaries and breast during the course of pregnancy is presented. The patient was treated with a combination of surgery and chemotherapy and was disease-free for 6 months after the diagnosis. Medical Oncology (2000) 17, 233–236.

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Introduction

The non-Hodgkin lymphomas occurring during pregnancy are highly malignant and have a tendency to involve organs most stimulated by sexual hormones such as breast, ovaries and uterus. Despite the late diagnosis and aggressive nature of the disease, the advanced pregnancy can continue to term with natural delivery of unaffected babies who remain healthy thereafter. If the pregnancy is early, an artificial termination has to be performed and chemo/radiotherapy subsequently applied.

Case report

A patient I.M. Pt. Rec. No. 56083, aged 32, developed malaise, abdominal pain, fatigue, and urinary and stool incontinence in March 1997. Abdominal ultrasonography revealed uterine and ovarian enlargement. Several days before the surgery she evidenced a tumefaction in the left lower breast quadrant and left subclavicular region. A malignant tumor of the uterus and ovaries was suspected and she underwent surgery in April. Total hysterectomy and adnexectomy was performed. The myometrial tissue was softened and gelatinous. In the cavity of the uterus a fetus corresponding to approximately twelve weeks of pregnancy was discovered.

Both ovaries appeared macroscopically as egg-shaped tumefactions 8×5 cm in size. The tumors were encapsulated. The whole uterus was heavily infiltrated by the lymphoma. Pathohistological findings evidenced NHL of the Burkitt’s-like type (Figures 1, 2 and 3).

Physical examination performed in May 1997 disclosed pallor and painless tumefaction in the left subclavicular region. In both lower quadrants of the left breast painless tumors 7×8 cm in size were detected. The lymph nodes, liver and spleen were not enlarged. The rest of the examination proved normal.

Laboratory analysis: Hb: 104 g/L, RBC: 3.4×10¹²/L, WBC: 12×10⁹/L, Hct: 29%, platelets 445×10⁹/L,
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Figure 1 The whole wall of the uterus heavily infiltrated by lymphoma cells (H&E, ×40).

Figure 2 Placental tissue of the gestational age of approximately 3 months in the uterine cavity (H&E, ×40).

Figure 3 The lymphoma cells in the uterus are medium sized with variations in nuclear size. Some nuclei have prominent solitary nucleoli. Many cells have plasmacytic and plasmablastic features which is the characteristic of Burkitt’s-like lymphoma (Giemsa, ×1000).

dominant cell population included moderately large lymphocytes, with oval shaped or mildly irregular nuclei, light chromatin and several small central nucleoli with scarce basophilic cytoplasm. The tumor tissues in the ovaries had a clearly visible coherent growth, sporadically of the typical ‘starry-sky’ appearance. Focally, the appearance was changed, with most of the cells showing ‘plasmatization’ with occurrence of plasmablasts, plasmocytes, lymphoplasmocytotic cells and rare small lymphocytes with loss of the coherent growth. Within these foci, the presence of immunocytoma in blast transformation was apparent. The transformation was particularly prominent in the endometrium. Mitoses were numerous, particularly the apoptotic ones. Immunophenotypically, the tumor corresponded to B-lymphoma which is LCA+, L26+, CD43+, sIgM and cIgM+ kappa-chains, with the kappa-chain restriction on the membrane and in the cytoplasm. Morphological features with the cohesive “starry-sky” appearance, extranodal ovarian location and immunophenotypic properties indicated the diagnosis of BL with plasmablast/plasmocytic differentiation and immunoglobulin secretion.

Bone marrow biopsy evidence the presence of a diffuse non-Hodgkin’s lymphoma in the bone marrow (Burkitt’s-like type). The cytogenetics of the bone marrow aspirate showed 46, XX.

Abdominal ultrasound examination revealed the presence of free fluid, as well as minor bilateral pleural