

Clinical Analysis of 76 Cases of Malignant Lymphoma Diagnosed by Percutaneous US-guided Core Needle Biopsy in Lymph Node

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Abstract Objective To evaluate the effectiveness of percutaneous US-guided core needle biopsy in lymph nodes in diagnosing of malignant lymphoma. **Methods** Seventy-six Patients with malignant lymphoma were measured using Percutaneous US-guided core needle Biopsy in lymph nodes with embedding of paraffine, HE dyeing and immunohistochemical staining to obtained the histological diagnosis. **Results** Microscopic examination in lymph nodes can classify histological subtype of malignant lymphoma in different location and type. **Conclusion** Percutaneous US-guided core needle biopsy is a useful and reliable tool, because of the characteristic of the same positive rate, little wounded, lower prices and convenience compared with surgical's in lymph node at the diagnosis of malignant lymphoma.

Key Words Ultrasonography; Biopsy; Diagnosis; Malignant Lymphoma

Over the past few years, Malignant lymphomas (ML) are increasing in frequency for unknown reasons. We know today that they constitute a big family of tumours of lympho-proliferative origin. The lymphomas are a diverse group of malignant disorders that vary with respect to their molecular features, genetics, clinical presentation, treatment approaches and outcome. Some of them need very specific treatments and it is therefore important that a clear diagnosis is obtained and that the treatment is individualized. The aim of this study was to evaluate the accuracy and reliability of US-guided needle biopsy as an alternative to surgical biopsy without superficial enlarged lymph nodes and a final diagnosis of malignant lymphoma at first presentation.

PATIENTS AND METHODS

Severty-six inpatients between January 2003 and May 2005 was conducted in our hospital. All patients had a final diagnosis of malignant lymphoma. The age of patients ranged from 8 to 76 (average 64.3) years old. The study population included 39 males and 37 females. After obtaining informed consent from the patient, US-guided needle biopsy was performed with standard percutaneous techniques. Biopsies were performed on nodal sites. Fine needles with cutting edges were just as likely

as larger needles to obtain adequate material so as to enable both determination of tumor grade and as a basis for treatment. All biopsies were performed by staff radiologists. The final diagnosis of malignant lymphoma was established by percutaneous needle biopsy. Immunophenotyping of lymphoma cells was done using monoclonal antibodies for CD3, CD4, CD20, CD45RO, CD30, CD15, CD79 α , CD56, Bcl-2, EBV, Ki-67, CD10, TdT, CyclinD1. Hodgkin lymphoma (HL) and non-Hodgkin lymphoma (NHL) were histologically classified according to World Health Organization classification system.

RESULTS

Various biopsy locations

Among the 76 patients with a final diagnosis, 47 (61.8%) was at superficial lymph nodes all over the body, 25 (32.9%) was at celiac lymph nodes, 4 (5.3%) was at mediastinal lymph nodes. Of the 25 patients with celiac lymph nodes, 12 were around great vessels and 9 were at porta hepatis, one patient's liver and two patient's spleen were to beinvaded.

Pathology

The table1 summarizes the pathological findings in these patients. A success rate is 97.3% because

Table 1 Type of lymphoma of 76 patients with ML submitted to needle biopsy

type of lymphoma	number(%)
HL	8(10.5%)
Nodular lymphocytic predominance	2
Mix cellularity	5
Lymphocytic deletion	1
NHL	66(86.8%)
Diffuse Large B-cell	29
Follicular	22
Small lymphocytic	6
Mantle-cell lymphoma	1
Adult T-cell lymphoma	5
Precursor B-cell lymphoblastic	3
FAILURE	2(2.6%)

of two failure that were confirmed the necrotic tissue.

Stage

According to Ann Arbor staging system (except for small lymphocytic according to RAI system), all patients were staged as follow :stage I 5 cases (6.76%), stage II 10 cases(13.5%), stage III 43 cases(58.1%), stage IV 16 cases(21.6%).

DISCUSSION

Lymphomas are primary malignant tumors of the immune system, which include NHL and HL^[1]. Although they are all derived from the lymph tissue, the lymphomas are vary with respect to their molecular features, genetics, clinical presentation, treatment approaches and outcome. Moreover, the radical differences in the therapeutic approach to ML (ranging from no treatment in low-grade NHL to massive chemo/radiotherapy and bone marrow transplantation in high-grade NHL) justify the need for a precise histologic subclassification. For these reasons, the precis diagnosis performed an important role.

Although made easier than in the past by the advances in cyto-and histopathologic diagnostic techniques (such as immunocytochemical studies of surface markers, data from the literature report that a correct classification of lymphomas is sometimes impossible when based on small amounts of tissue in comparison with other types of tumors. Percutaneous US-guided core needle biopsy is characteristic of the same positive rate, little wounded, lower price and convenience compared with surgical's in lymphoma at the diagnosis of malignant

lymphoma^[2-5]. (1) the same positive rate: In our study, needle biopsy was successful in 97.3 % patients with ML. It is more effective than previously reported in our study because of increased confidence with improvement of technique by radiologists and cytopathologists^[6-9]. (2) lower prices: Percutaneous US-guided core needle biopsy is lower prices and convenience compared with surgical's in the diagnosis of malignant lymphoma. It shortens the period of hospitalization and for earlier commencement of therapy.^[10-13] (3) reduces complication: All the patients in our study didn't have any procedure-related complication. For these reason, this study demonstrated percutaneous US-guided core needle biopsy is well and able to make a diagnosis of lymphoma when it is present.

In such cases, the overall ratio between potential diagnosis and limited procedure-related risks, patient discomfort and costs is particularly favourable to the percutaneous biopsy. Our results suggest that the us-guide core needle biopsy is a preferred way and a valid alternative to surgery, especially, when tumor located at Mediastinal or celiac.

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