Malignant Lymphoma in Leprosy Patients of Our Autopsy Series

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INTRODUCTION

Presently, we are living in a society of a rapidly increasing percent of the elderly and we are seeing a very high incidence of epithelial malignant tumors. Among these elderly people, non-epithelial malignant tumors are less frequent than the epithelial malignancy. However, malignant lymphoma shows conspicuously high incidence among these non-epithelial tumors. This tendency is seen in the leprosarium as well as in general hospitals.

MATERIALS

We have done 225 autopsy cases in our national leprosarium between 1962 and 1971, and 1977 and 1987. There were six cases of malignant lymphoma in all, three cases in each period. All 6 cases were male patients. The types of leprosy were tuberculoid leprosy: 1 case, borderline group: 1 case, lepromatous leprosy: 4 cases. In three cases the disease arose from the neck and in the other three from the retro-peritoneum. The average age of these 6 cases was 63.

Table 1

<table>
<thead>
<tr>
<th>CASE NO.</th>
<th>AGE</th>
<th>SEX</th>
<th>TYPE OF LEP.</th>
<th>ORIGIN</th>
<th>CELL TYPE</th>
<th>IMMUNOHISTOCHEMICAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (1964)</td>
<td>64</td>
<td>male</td>
<td>lepromatous</td>
<td>neck</td>
<td>small</td>
<td>B cell</td>
</tr>
<tr>
<td>2 (1964)</td>
<td>48</td>
<td>male</td>
<td>lepromatous</td>
<td>retro-peritoneum</td>
<td>large</td>
<td>B cell</td>
</tr>
<tr>
<td>3 (1968)</td>
<td>69</td>
<td>male</td>
<td>lepromatous</td>
<td>retro-peritoneum</td>
<td>large</td>
<td>B cell</td>
</tr>
<tr>
<td>4 (1983)</td>
<td>59</td>
<td>male</td>
<td>tuberculoid</td>
<td>neck</td>
<td>mixed</td>
<td>B cell</td>
</tr>
<tr>
<td>5 (1986)</td>
<td>60</td>
<td>male</td>
<td>lepromatous</td>
<td>neck</td>
<td>medium-sized</td>
<td>B cell</td>
</tr>
<tr>
<td>6 (1986)</td>
<td>70</td>
<td>male</td>
<td>borderline</td>
<td>retro-peritoneum</td>
<td>mixed</td>
<td>B cell</td>
</tr>
</tbody>
</table>
CLASSIFICATION

Recently, the knowledge of the lymphocyte is rapidly increasing and the classification of the malignant lymphoma used in former times needs to be changed. The dividing of two major types by functional difference of the lymphocyte is a matter of course, but there is no certain classification by morphological dividing except for a few exceptions. We used the immunohistochemical (immunoperoxidase) method on paraffin sections and all cases of this report showed B-cell type nature.

DISCUSSION

Malignant lymphoma was found in 6 cases of our autopsy series. In 1952, Ishihara [1] first reported a case of malignant lymphoma among Japanese leprosy patients. It was Hodgkin's lymphoma of a 49 year old male with tuberculoid leprosy. In 1975, Moriyama [2] reported malignant lymphoma was less frequent in leprosy patients than in healthy individuals. Purtill et al. (1975) [3] found 3 cases of histiocytic lymphoma in 195 dissected leprosy patients. They mentioned that the incidence of malignant lymphoma was less frequent than that of an age matched control group. Retrospective study of inpatients in Carville revealed that there was no significant excess of lymphoma among leprosy patients. On the contrary, Rodriguez [4] mentioned that association of malignant lymphoma with leprosy might be frequent. The incidence of malignant lymphoma in our series was 2.66% (6 out of 225) and it seemed not particularly high. However, 5 out of 6 were seen in lepromatous type (4 cases) or borderline group (1 case). This might be related to immunosuppression and aging in lepromatous leprosy patients.

Another important issue is the diagnosis of lymphoma, especially its classification. Until recently, the classification of malignant lymphoma has been in confusion. The classification of Hodgkin type lymphoma was established by Lukes in 1966. Diagnostic uniformity of non-Hodgkin lymphoma was not accomplished until such a criteria for the diagnosis as WHO classification was established. In Japan L.S.G. (Lymphoma Study Group) classification has been accepted since 1978 among clinicians as well as pathologists. But again, this classification is not a satisfactory one. Because there is some difficulty in making a distinction between medium size and large size in cell type. There appeared various names for lymphoma in articles, reticuro-sarcoma, lymphosarcoma, lymphoreticular cancer, histiocytic lymphoma etc. It is difficult to re-classify them on the basis of newer concepts.

The problem of immunosuppressive condition and malignant lymphoma is surely deeply related. Marked suppressive condition of cellular immunity among lepromatous leprosy patients is now a matter of common knowledge, and in our country, the percentage of elderly patients in leprosarium are rapidly increasing. This immunosuppression seems to be a causative factor. We think, there is no wonder that we are seeing more malignant lymphoma among of elderly lepromatous leprosy patients in future.

CASES

No.1 (1964) 64 y.o., Lepromatous, Male, birth: 1899, admission: 43 y.o. (1940)
onset of leprosy: 40 y.o. from anesthesia of r-knee
Tumors were noticed on his l-neck in Feb. 1963. Some had grown as large as pigeon eggs and others were the size of a bean with slight tenderness by July, 1963. They were smooth on surfaces, hard in consistency and without adhesion to skin, but with adhesion to deep layers. They were diagnosed as malignant lymphoma by biopsy in Aug. 1963. They began growing rapidly with tenderness in Sep. 1963. The patient suffered from anorexia and sleeplessness. The swelling of lymph nodes was recognized on b-inguinals, r-neck and b-axillas in Oct. 1963. General conditions went down gradually. In Jan. 1964,
he died of respiratory failure. It was found by autopsy that he also had adenocarcinoma of the stomach and the metastasis to the pancreas. (Fig. 2) Though he had felt discomfort at the stomach, the gastric fluoroscopy performed in his lifetime could not be helpful for diagnosis.

onset of leprosy: 30 y.o. from the skin lesion (erythema) on r-forearm. Abdominal pain appeared on and off since 1961. The patient had suffered from epigastralgia and anorexia since Oct. 1964. A tumor as large as a hen egg was palpable in epigastric region; surface: smooth, consistency: elastic hard; tenderness: ( + ); mobility: ( ± ). In Nov. 1964, biopsy was performed. There was a hen egg sized tumor in retroperitoneal space and two metastatic tumors as large as walnut in the omental lymph nodes and the latter were excised for histological examination and diagnosed as malignant lymphoma, possibly lymphocytic type. The swelling of the head of pancreas was also recognized. In Dec. 1964, metastasis of Virchow's Lymph node and ascites was recognized and he died of respiratory failure before long.

No. 3 (1968) 69 y.o., Lepromatous, Male, birth: 1899, admission: 50 y.o. (1948)
onset of leprosy: 49 y.o. (1947) from the skin lesion in the face
The patient had suffered from discomfort of gastric region and anorexia since May. 1967. In Feb. 1968, the emergency operation was performed because of abdominal pain and the defense of the abdominal wall. The blood vessel of tumor in the liver ruptured and hematoma was formed. Afterwards, the liver tumor rapidly increased in size and the general condition of the patient grew worse at the same time. In May 1968, he died of liver failure.

onset of leprosy: 12 y.o. from anesthesia of 1-knee
The swelling of lymph node at 1-neck was recognized in June, 1980 and was identified as malignant lymphoma by biopsy in July, 1980. The lymph nodes of b-axillas had also swollen and been the size of a hen egg by Aug. 1980. Chemotherapy was started in Jan. 1981 and continued intermittently. The swelling of b-hilar Lymph nodes was recognized in May, 1982. In Jan. 1983, he died of respiratory failure.

No. 5 (1986) 60 y.o. Lepromatous, Male, birth: 1926, admission: 15 y.o. (1940)
onset of leprosy: 6 y.o. from anesthesia of soles

No. 6 (1986) 70 y.o., Borderline, Male, birth: 1916, admission: 24 y.o. (1940)
onset of leprosy: 23 y.o. from skin lesions (erythema) of face and upper extremities.
The patient had been complaining of constipation for 20 years. The condition of constipation grew worse and abdominal distention, anorexia and general fatigue were added in Oct. 1984. Abdominal pain and leucocytosis appeared in Aug. 1986. The swelling of lymph nodes was recognized in b-inguinal regions, neck, and submandibula in Sep. 1986. Hydrothorax and splenomegaly were also recognized. Biopsy specimen from r-inguinal lymph node showed malignant lymphoma, but the patient died of respiratory failure before long.

CONCLUSION

We found 6 cases of malignant lymphoma out of the 225 autopsyed cases which we did at Japanese
National Leprosarium Oku Komyo-en during 1962-1971 and 1977-1987. All of the cases were male and the average age was 63. Malignant lymphomas arose from neck in 3 cases and the retroperitoneum in the other 3 cases. In all cases lymphoma cells showed B-cell type nature by the immunohistochemical method. The incidence was 2.66% (6 out of 225) and 1 case was tuberculoid, another case was borderline and the others were lepromatous leprosy, which seems to be deeply related to the immunosuppressive condition of lepromatous leprosy patients and their aging. We are seeing more malignant lymphomas in elderly lepromatous leprosy patients in future.

This study was reported at the 1st Joint Meeting of International Academy of pathology (IAP) Chinese Division and Society of Pathology Chinese Medical Association (CMA), in Zhuhai, Guangdong, 1988.

References

1) S. IShihara : An example of lymphogranulomatosis combining with leprosy, La Lepro, 21, 62-64 (1952).

Fig. 1
Case no. 1 (1964)
64 y.o. male
Lepromatous leprosy
lymphoma arose from neck
cell type: small
immunohistochemical: B

Fig. 2
Case no. 1 (1964)
He had a gastric adenocarcinoma at the same time.
Case no. 2 (1964)
48 y.o. male
lepromatous leprosy
lymphoma arose from retroperitoneum
cell type: large
immunohistochemical: B

Fig. 3

Case no. 3 (1968)
lepromatous leprosy
lymphoma arose from retroperitoneum
cell type: large
immunohistochemical: B

Fig. 4

Case no. 4 (1983)
59 y.o. male
tuberculoid leprosy
lymphoma arose from neck
cell type: mixed
immunohistochemical: B

Fig. 5

Case no. 5 (1986)
60 y.o. male
lepromatous leprosy
lymphoma arose from neck
cell type: medium-sized
immunohistochemical: B

Fig. 6
Case no. 5 (1986)
The malignant lymphoma arose from the right tonsile.

Case no. 6 (1986)
70 y.o. male
borderline leprosy
lymphoma arose from retroperitoneum
cell type: mixed
immunohistochemical: B