

A930: lymphoma

Pathology of lymphoma

lymphoma, a cancer of the tissue of the lymphatic system. There are two categories of lymphomas. One type is termed Hodgkin's disease, the other, non-Hodgkin's lymphoma.

Hodgkin's disease, a type of cancer of the lymphatic system. First identified in 1832 in England by Thomas Hodgkin, it is a type of malignant lymphoma. Incidence peaks in young adults and the elderly. There is some evidence that it is caused by an infection (the Epstein-Barr virus is sometimes present), and studies of twins suggest a hereditary susceptibility. In addition, exposure to the defoliant, Agent Orange, has been strongly linked to Hodgkin's disease and other lymphomas.

The first sign is often enlarged lymph nodes in the neck or armpit. Lymph node biopsy shows the multinucleated Reed-Sternberg cells peculiar to the disease. It spreads from node to node in an orderly fashion. Symptoms include itching, fever, night sweats, and weight loss.

Because it affects the lymphatic system, the body becomes less able to fight off infection as the disease progresses. Radiation therapy and combinations of chemotherapeutic agents are used in treatment. By the 1990s most newly diagnosed cases were curable.

lymphoma, non-Hodgkin's, any cancer of the lymphoid tissue (see lymphatic system) in which the Reed-Sternberg cells characteristic of Hodgkin's disease (the other category of lymphoma) are not present. There are about 10 different types of non-Hodgkin's lymphomas, some slower- or faster-growing than others. Non-Hodgkin's lymphoma can affect children as well as adults. In most cases the cause is unknown, but an increased incidence has been observed in people who have been exposed to Agent Orange, and some forms of the disease are frequently seen in people with AIDS, many of these in association with latent Epstein-Barr virus infection.

<http://www.cancer.org/>

Staging of Hodgkin's Lymphoma

The Ann Arbor staging system is commonly used for patients with Hodgkin's disease. The stages are further subclassified into A and B categories: B for those with well-defined generalized symptoms and A for those without. The B designation is given to patients with any of the following symptoms:

- Unexplained loss of more than 10% of body weight in the 6 months before diagnosis.
- Unexplained fever with temperatures above 38 degrees C.
- Drenching night sweats.

Stage I

Involvement of a single lymph node region (I) or localized involvement of a single extralymphatic organ or site (IE).

Stage II

Involvement of 2 or more lymph node regions on the same side of the diaphragm (II) or localized involvement of a single associated extralymphatic organ or site and its regional lymph nodes with or without other lymph node regions on the same side of the diaphragm (IIE).

Stage III

Involvement of lymph node regions on both sides of the diaphragm (III) that may also be accompanied by localized involvement of an extralymphatic organ or site (IIIE), by involvement of the spleen (IIIS), or both (IIIS+E).

Stage IV

Disseminated (multifocal) involvement of 1 or more extralymphatic sites with or without associated lymph node involvement or isolated extralymphatic organ involvement with distant (nonregional) nodal involvement.

The designation E is used when extranodal lymphoid malignancies arise in tissues separate from, but near, the major lymphatic aggregates. Stage IV refers to disease that is diffusely spread throughout an extranodal site, such as the liver.

Sites are identified by the following notation:

- N = nodes
- H = liver
- L = lung
- M = bone marrow
- S = spleen
- P = pleura
- O = bone
- D = skin

References

Carbone PP, Kaplan HS, Musshoff K, et al.: Report of the Committee on Hodgkin's Disease Staging Classification. Cancer Res 31 (11): 1860-1, 1971.

Staging of Non-Hodgkin's Lymphoma

The Ann Arbor staging system is commonly used for patients with NHL. The stages are further subclassified into A and B categories: B for those with well-defined generalized symptoms and A for those without. The B designation is given to patients with any

Unexplained loss of more than 10% of body weight in the 6 months before diagnosis.
Unexplained fever with temperatures above 38 degrees C.
Drenching night sweats.

Stage I

Involvement of a single lymph node region (I) or localized involvement of a single extralymphatic organ or site (IE).

Stage II

Involvement of 2 or more lymph node regions on the same side of the diaphragm (II) or localized involvement of a single associated extralymphatic organ or site and its regional lymph nodes with or without other lymph node regions on the same side of the d

Stage III

Involvement of lymph node regions on both sides of the diaphragm (III) that may also be accompanied by localized involvement of an extralymphatic organ or site (IIIE), by involvement of the spleen (IIIS), or both (IIIS+E).

Stage IV

Disseminated (multifocal) involvement of 1 or more extralymphatic sites with or without associated lymph node involvement or isolated extralymphatic organ involvement with distant (nonregional) nodal involvement.

The designation E is used when extranodal lymphoid malignancies arise in tissues separate from, but near, the major lymphatic aggregates. Stage IV refers to disease that is diffusely spread throughout an extranodal site, such as the liver.

Sites are identified by the following notation:

N = nodes
H = liver
L = lung
M = bone marrow
S = spleen
P = pleura
O = bone
D = skin

References

1. Lymphoid neoplasms. In: American Joint Committee on Cancer.: AJCC Cancer Staging Manual. 6th ed. New York, NY: Springer, 2002, pp 393-406.

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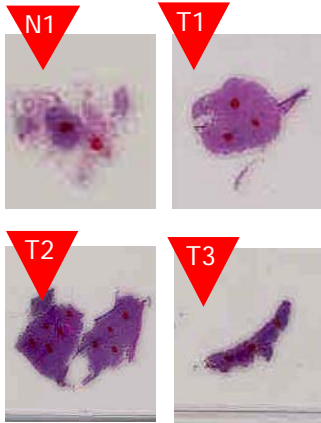
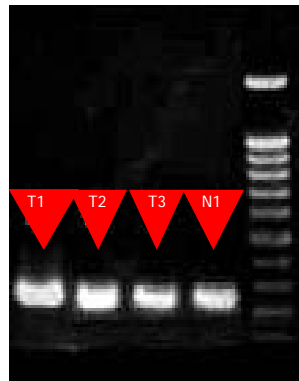


Fig 1. Scanned images for H&E stained slides.



	T1	T2
RNA conc. (ng/ul)	322.74	995.26
260/280	1.97	1.99

	T3	N1
RNA conc. (ng/ul)	231.73	144.83
260/280	1.97	1.96

Fig3. RT-PCR for GAP3DH
Sample : Serial 10 sections of 10micrometer

Pathology or other information:

AGE: 16
Sex: Male
Stage: diffuse large cell lymphoma

Pathology:

1. Terminal ileum, segmental resection:
Diffuse large B cell lymphoma.
1) resection margin: Lymphoid hyperplasia.
2) lymph node: Reactive hyperplasia.
2. Appendix: No pathological diagnosis.

*Note: Immunohistochemical staining results
CD20, CD10: diffuse positive
Bcl-6: focal positive
CD3: negative
Ki-67 proliferation index: about 70%

A930: Ileum: non-Hodgkin's / Burkitt's lymphoma

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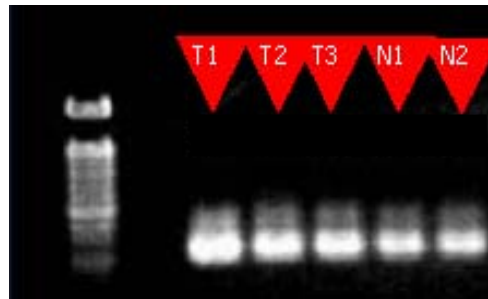
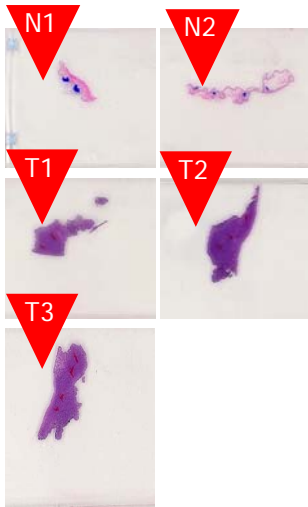


Fig2. RT-PCR for GAP3DH
Sample : Serial 10 sections of 10micrometer slice

	T1	T2	T3	N1	N2
RNA conc. (ng/ul)	730.21	1193.55	1632.52	66.61	55.48
260/280	1.93	1.93	1.92	1.93	1.94

Fig 1. Scanned images for H&E stained slides.

Pathology or other information:

AGE: 10
Sex: Male
Stage: IV

Pathology:

- 1.Small intestine, terminal ileum, segmental resection:
Non-Hodgkin's lymphoma,
1) most likely Burkitt's lymphoma.
 - 2.Appendix, appendectomy: Involvement of lymphoma.
- *Note: Immunohistochemical stain results:
CD20, CD10: positive, MIB: nearly 100%,
CD3,TdT, Bcl-2, Bcl-6: negative.

* Post operation : chemotherapy (Dexa,V.C.R,Adriamycin)