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Original Contribution

Intestinal T-cell and NK/T-cell lymphomas: A clinicopathological study of 27 Chinese patients

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ABSTRACT

Background: Intestinal T-cell and NK/T- cell lymphomas are rare and aggressive. The diagnosis is quite difficult, especial in biopsy specimens. This study investigates the clinicopathological features of intestinal T-cell and NK/T-cell lymphomas to aid their differential diagnosis.

Methods: Clinical data of 27 cases were collected. Including extranodal NK/T-cell lymphoma, nasal type (ENKTCL-N), monomorphic epitheliotropic intestinal T-cell lymphoma (MEITL), peripheral T-cell lymphoma, not otherwise specified (PTCL, NOS), anaplastic large-cell lymphoma, ALK+ (ALCL, ALK+) and angioimmunoblastic T-cell lymphoma (AITL). The histologic features, immunohistochemical findings, T-cell receptor gene rearrangement results, and follow-up data were analyzed, with review of literature.

Results: The age of the patients (N = 27) was 15-85 years (mean, 47.5 years), and male:female ratio, 3.5:1. Abdominal pain and B symptoms were the most common symptoms. Although 85.2% of the patients were in clinical stage I-II, 59.3% died within 1 year. MEITL showed certain distinctive clinic opathological features from ENKTCL-N. Compared to lesions at other sites, there were no differences in the morphological features, immunophenotype and TCR gene rearrangement of intestinal ENKTCL-N, PTCL, NOS, ALCL, ALK+ and AITL.

Conclusion: Intestinal T-cell and NK/T-cell lymphomas are a heterogeneous group of lymphomas. They could be classified to 5 histological subtypes in our study. ENKTCL-N and MEITL formed the majority of the tumor types. Each subtype has distinctive pathological features, but most of them have diamal prognosis.

1. Introduction

In recent years, the incidence of lymphoma, especially extranodal lymphoma, has been increasing in China. The gastrointestinal tract is the most commonly involved site, and it accounts for 50% of extranodal lymphomas [1]. Almost all gastric lymphomas are B-cell lymphomas, but T-cell and NK/T-cell lymphomas of the digestive tract are relatively rare [1]. However, the latter are more aggressive, and are more prevalent in Asian than in White populations [1].

Intestinal T-cell and NK/T-cell lymphomas comprise five subtypes: extranodal NK/T-cell lymphoma-nasal type (ENKTCL-N), monomorphic epitheliotropic intestinal T-cell lymphoma (MEITL), peripheral T-cell lymphoma, not otherwise specified (PTCL,NOS), anaplastic large-cell lymphoma, ALK positive (ALCL,ALK+) and angioimmunoblastic T-cell lymphoma (AITL). These lymphomas represent a heterogeneous group of lymphomas that can be differentiated based on their clinicopathological features. However, because of the low incidence and complex pathological classification of these lymphomas, the diagnosis of these lymphomas is quite difficult, especially biopsy-based diagnosis. The studies so far were only focus on primary intestinal T-cell and NK/T-cell lymphomas, with very little data coming from Mainland China [2,3]. In the present study, we analyzed 27 samples of intestinal T-cell and NK/T-cell lymphomas including primary intestinal lymphomas and secondary lymphomas, to compare clinicopathological features of these lymphoma types, aim for accurate differential diagnosis.

2. Materials and methods

2.1. Case selection

Between January 2011 and December 2016, we obtained records of 25 cases of intestinal T-cell and NK/T-cell lymphoma from the archives of the Department of Pathology, Xinqiao Hospital, the third Military Medical University, and records of 5 cases from the archives of the

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Table 1
Detailed clinical and follow-up information of the 27 patients in the study.

No.	Type	Sex/age	Presentation	Disease course	B symptoms	Complication	Site	Ultrasound/CT scan finding	Endoscopy/ surgery finding	LDH	Stage	Treatment	Outcome (d)
1	ENKTCL-N	M/39	Abdominal pain + hematochezia	20 d	Yes	Perforation	Colon + ileocecum	Bowel wall thickening	Solitary ulcer	Not detected	I	Resection	DOD 180
2	ENKTCL-N	M/51	Abdominal pain + hematochezia	1 mo	Yes	None	Duodenum	Normal	Multiple ulcers	Not detected	I	ST	DOD 90
3	ENKTCL-N	M/54	Abdominal pain + hematochezia	10 d	No	Perforation	Jejunum	Bowel wall thickening + lymphadenopathy	Multiple ulcers	Normal	II	Resection	DOD 240
4	ENKTCL-N	M/71	Abdominal pain + hematochezia	5 mo	No	Perforation	Small intestine	Bowel wall thickening + lymphadenopathy	Multiple ulcers	Not detected	III	Resection	DOD 7
5	ENKTCL-N	M/30	Abdominal pain + hematochezia	24 mo	No	Hemorrhage	Colon	Bowel wall changes	Multiple ulcers	Not detected	I	Resection	DOD 1
6	ENKTCL-N	M/32	Abdominal pain	5 mo	Yes	No	Ileocecum + colon	Bowel wall thickening	Multiple ulcers	Normal	I	ST	Alive 120
7	ENKTCL-N	F/34	Hematochezia	15 d	Yes	No	Colon	Bowel wall changes	Multiple ulcers	Elevated	I	C	DOD 3
8	ENKTCL-N	M/15	Abdominal pain + diarrhea	3 mo	No	No	Colon	Bowel wall thickening + obstruction	Multiple ulcers	Elevated	I	C	DOD 180
9	ENKTCL-N	M/50	Abdominal pain + diarrhea	12 mo	No	No	Colon	Bowel wall thickening	Multiple ulcers	Normal	I	c	DOD 240
10	ENKTCL-N	F/49	Abdominal pain + diarrhea	3 mo	No	Perforation	Sigmoid colon	Bowel wall thickening	Multiple ulcers	Not detected	I	ST	DOD 4
11	ENKTCL-N	M/20	Abdominal pain + hematochezia	6 mo	No	Perforation	Colon	Bowel wall thickening	Multiple ulcers	Elevated	I	Resection	Alive 210
12	ENKTCL-N	M/47	Abdominal pain	2 mo	Yes	Perforation	Jejunum	Bowel wall thickening	Multiple ulcers	Elevated	I	Resection	DOD 7
13	ENKTCL-N	F/32	Abdominal pain	7 d	Yes	No	Colon	Bowel wall thickening	Multiple ulcers	Normal	II	C	Alive 60
14	ENKTCL-N	M/31	Diarrhea	2 mo	Yes	No	Ileocecum	Bowel wall thickening + obstruction	Solitary ulcer	Elevated	II	C	Alive 60
15	ENKTCL-N	M/85	Diarrhea	1 mo	Yes	Perforation	Small bowel	Bowel wall thickening	Multiple ulcers	Not detected	II	Resection	DOD 30
16	ENKTCL-N	M/47	Abdominal pain	3 mo	Yes	No	Ileocecum	Bowel wall change	Solitary ulcer	Elevated	I	Resection	DOD 390
17	ENKTCL-N	M/29	Abdominal pain + hematochezia	4 mo	Yes	No	Ileocecum + colon	Ascites	Multiple ulcers	Normal	I	C	DOD 90
18	MEITL	F/66	Irregular stool	8 mo	No	No	Small bowel	Bowel wall thickening	Solitary mass	Elevate	I	Resection + C	Alive 900
19	MEITL	F/57	Diarrhea	8 mo	Yes	No	Jejunum	Bowel wall thickening	Solitary mass	Elevated	I	ST	DOD 30
20	MEITL	M/65	Abdominal pain	6 mo	Yes	Perforation	Small bowel	Bowel wall thickening	Solitary mass	Not detected	I	Resection + C	DOD 300
21	MEITL	M/42	Abdominal pain + hematochezia	3 mo	No	No	Colon	Bowel wall thickening	Multiple ulcers	Normal	I	Resection	DOD 450
22	MEITL	M/47	Abdominal pain	12 mo	Yes	No	Duodenum	Normal	Solitary ulcer	Elevated	I	ST	DOD 60
23	PTCL,NOS	M/67	Abdominal pain	1 mo	No	Perforation	Small bowel	Abdominal mass	Solitary ulcer	Elevated	I	Resection + C	DOD 510
24	PTCL,NOS	M/65	Abdominal pain + diarrhea	1 mo	Yes	No	Ileum	Obstruction + lymphadenopathy	Solitary ulcer	Normal	III	ST	DOD 390
25	ALCL,ALK+	F/15	Abdominal pain	20 d	Yes	No	Duodenum	Normal	Solitary mass	Normal	I	C + AHSCT	Alive 730
26	ALCL,ALK+	F/74	Abdominal pain	2 mo	No	No	Duodenum	Lymphadenopathy	Solitary ulcer	Elevated	III		Alive 60
27	AITL	M/68	Abdominal pain + diarrhea	4 mo	Yes	No	Colon + rectum + ileocecum	Lymphadenopathy + renal multiple masses	Multiple masses	Elevated	IV	ST	DOD 300

B symptoms: fever, night sweating and loss of weight, DOD: died of the disease, C: chemotherapy, ST: supportive treatment, AHSCT: autologous hemopoietin stem cell transplantation.