Clinical characteristic analysis of 837 patients who suffer from malignant tumescent neck lymph nodes

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Abstract: Objective: The lymphadenectasis in the neck part is the first symptom of some diseases. There is the important significance of instructing of the diagnosis and treatment of some diseases to analyze the relationship of the pathologic diagnosis and clinical feature. This study summing up 837 cases who visited in the hospital because of the lymph gland intumescence in the neck part was to explore the relationship of the different part or prognosis and pathologic character. **Methods:** Clinical data of 837 cases, with the lymphadenectasis in the neck treated from February 2005 to February 2012, were analyzed. **Results:** The age and part of onset, the prognosis of the patients with the lymphadenectasis in the neck part are different with the origin of diseases. The 3-year survival rate of cervical lymph node metastases is 25.7%; the prognosis of lymph node metastases in VB is most evil. **Conclusions:** As the first symptom to the malignant diseases with cervical lymph node metastases, the patients have the poorer prognostic. If the patients who have the metastatic carcinoma doubtfully and whose ages are above 40 have lymphadenectasis in supraclavicular region, we should get the pathologic diagnosis as far as possible.
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Key words: neck part; lymph gland; active inspection; analysis； prognosis

1. Introduction

As painless enlargement of cervical lymph node are first signs of advanced cancer, for this reason, analyzing clinical features of patients with clinical features of malignancy who also complaining enlargement of cervical lymph node has significance. The article analyzed the 837 patients retrospectively. Results analysis report will be as follows:

2. Materials and methods

2.1 General material

We collected 837 patients with malignant tumescent neck lymph nodes, those visited our hospital during the period of previous three years, from Februry in 2005 to 2012. Men: 745 patients, women: 658 patients, ages from 7 to 84, the size of lymph node were from 0.5*0.5 cm to 4.0*5.0 cm.Total 837 patients visited hospital along with enlargement of cervical lymph node are first signs of advanced cancer, 941 patients got pathology results after surgical treatment, and 462 patients did not do surgical treatment.

2.2 Cervical lymph node partition

Most lymph nodes in our body intensive in neck, therefore, celiac lymph also could be drained into neck through thoracic duct by collecting abroad regional lymph drainage like in head and neck or chest. To express the distribution of lymph conveniently, American published clinical partition of cervical lymph node in 1991, they divided it into several partitions: Ⅰ, Ⅱ, Ⅲ, Ⅳ, Ⅴ, Ⅵ, Ⅶ and subregions (ⅠA, ⅠB, ⅡA, ⅡB, ⅤA, ⅤB), it has been used widely by physicians in various countries.

2.3 The reasons of lymphadenophy

The study divided 837 patients into four cases: metastatic carcinoma, lymphoma, tuberculosis and benign non tuberculosis. Analyzing clinical features as the partition mark of touching max lymph.

2.4 Statistical methods

Analyzed retrospectively the clinical features of malignant tumescent neck lymph nodes, all the data were processed by SPSS13.0 software package, and the test level was 0.05(α=0.05).

3. Results

3.1 General data

The 837 patients including 728 patients with metastatic carcinoma(head and neck tumor metastatic carcinoma:327, abdmen –thorax cancer metastatic carcinoma:401); 109 patients with malignant lymphoma.Gender distribution of non tuberculosis benign disease was nineteen to twenty-four, gender distribution of tuberculosis was twenty to forty-five, and malignant lymphoma was seventy-nine to thirty, gender distribution of 728 patients with metastatic carcinoma of lymph node was three hundred and sixty-five to three hundred and sixty-three.The average ages of patients with non tuberculosis benign disease were 27±10.6. tuberculosis were 33±7.8, metastatic carcinoma were 51±10.5, malignant lymphoma were 36±6.5,and the ratio of Hodgkin's disease and non Hodgkin's disease were 26 to 83, young men are liable to Hodgkin's disease, and their mean age were 24±4.5 years.

3.2 The distribution of lymph nodes

The Table 1 showed lymph nodes and its

distributed condition, according to whether the disease or not. enlargement of cervical lymph node are first signs of

Table 1. **The distribution of lymph nodes**					
		nontuberculous noncancerous lesion	tuberculous	malignant lymphoma	metastatic carcinoma
Ⅰ	ⅠA	2	0	0	4
	ⅠB	24	0	5	24
Ⅱ	ⅡA	2	13	9	65
	ⅡB	6	8	22	82
Ⅲ		4	11	19	69
Ⅳ		2	6	18	41
Ⅴ	ⅤA	1	1	8	66
	ⅤB	1	19	23	293
Ⅵ		1	7	5	84
Total		43	65	109	728

3.3 Tuberculosis

The distribution of tuberculosis was showed in the Table 2. Dividing offside by left side was 23:11. Among 31 patients with lymph tuberculosis, the rate is 12:19. The differences between scrofula combine phthisis and pure scrofula lymphadenophy in distribution were shown in the Table 3 ($P < 0.05$).

Table 2. **The distribution of tuberculosis**				
		Lymphatic tuberculosis with tuberculosis	Lymphatic tuberculosis	
Ⅰ	ⅠA	0	0	0
	ⅠB	0	0	0
Ⅱ	ⅡA	1	12	13
	ⅡB	3	5	8
Ⅲ		2	9	11
Ⅳ		2	4	6
Ⅴ	ⅤA	0	1	1
	ⅤB	19	0	19
Ⅵ		7	0	7
Total		34	31	65

Table 3. The distribution of Tuberculous lymph		
	Phthisis with tuberculOus lymphadenitis of the neck	lymphatic tuberculosis
ⅡⅢⅣⅥ	13	30
Ⅴ	19	1
Total	27	31

3.4 Malignant lymphoma

The Table 4 showed that 109 patients with malignant lymphoma. The swollen lymph of non VB district was more than VB district, and most swollen lymph in VB district accompany with lymphadenectasis in mediastinum (19/24) (Table 5).

Table 4. The distribution of malignant lymphoma				
		HL	NHL	malignant lymphoma
Ⅰ	ⅠA	0	0	0
	ⅠB	2	2	4
Ⅱ	ⅡA	4	5	9
	ⅡB	16	5	21
Ⅲ		10	8	18
Ⅳ		13	6	19
Ⅴ	ⅤA	3	5	8
	ⅤB	10	14	24
Ⅵ		1	5	6
Total		59	50	109

Table 5. The distribution of malignant lymphoma		
	HL	NHL
Ⅱ	20	10
Ⅲ	10	8
Ⅳ	13	6
Ⅴ	13	19
Total	56	43

3.5 Metastatic carcinoma

The Table 6 showed 728 patients with metastatic carcinoma including 401patients with primary tumors located in thorax and abdomen. The distribution of 327 patients with primary tumors located in head and neck. The number of adenocarcinoma and squamous carcinoma of lymph node metastasis carcinoma in thorax and abdomen, head and neck were different (chart eight, $P<0.05$)(Table 7). The deradenoncus distribution of thorax and abdomen lymph node metastasis carcinoma and head and neck lymph were different (Table 8, $P<0.05$).

Table 6. The distribution of metastatic carcinoma				
		Head and neck malignant tumor	Head and neck malignant tumor	
Ⅰ	ⅠA	4	0	4
	ⅠB	24	0	24
Ⅱ	ⅡA	61	4	65
	ⅡB	75	7	82
Ⅲ		60	9	69
Ⅳ		30	11	41
Ⅴ	ⅤA	38	28	66
	ⅤB	2	291	293
Ⅵ		43	41	84
Total		327	401	728

Table 7. The pathological type of lymphatic metastatic carcinoma		
	Head and neck malignant tumor	Belly malignant tumor
adenocarcinoma	307	29
squamous carcinoma	94	298
Total	401	327

Table 8. The distribution of lymphatic metastatic carcinoma		
	Head and neck malignant tumor	Belly malignant tumor
No-VB	325	110
ⅤB	2	291
Total	327	401

3.6 Lymphadenectasis and prognosis

After treatment, the three-year survival rate of malignant metastatic carcinoma was 25.7%, however, the three-year survival rate of malignant lymphoma was 95.2%, the difference was statistically significant ($\chi 2=7.164$, $p<0.01$)(Fig 1A). There was statistically significant difference between V_B and no-VB patients in three-year survival rate ($\chi^2=13.612$,$p<0.01$)(Fig 1B).

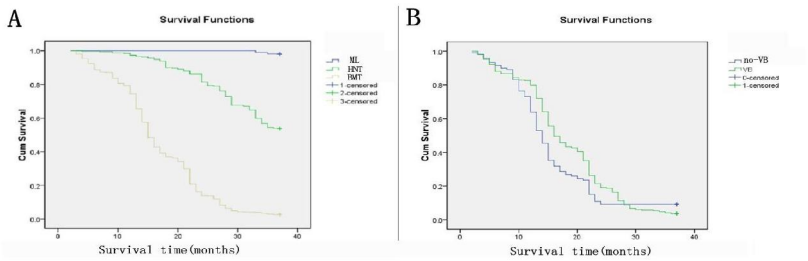

Fig 1. The lymphadenectasis and prognosis. A.Malignancy and prognosis.B.he prognostic analysis on transference of abdmen-thorax malignancy in VB and non VB district.ML:malignant carcinoma; HNT: head and neck malignancies tumor; BMT:Belly malignant tumor.

4. Discussion

Lots of lymph node in the whole body intensive in neck, cervical lymph node could receive lymph backflow of head and neck, chest, belly and pelvic. Metastasis carcinoma and primary malignant lymphoma with the first symptom of enlarged lymph glands in neck are malignancy, yet the reason of cervical lymph node metastatic carcinoma is complex. Patients complained the painless swollen lymph glands as the first symptom of most patients with malignancy, therefore, analyzing its clinical features has significance for conducting treatment.

There are differences in distribution between swollen lymph node and tuberculosis, non tuberculosis benign lesion too. Most painless malignant tumescent neck lymph nodes caused by non tuberculosis benign lesion is involved by inflammation (Hu et al.,2004). And the amount of it in VA and VB district less than other districts. The course of enlargement of tuberculosis lymph is long, female are easy to catch it, mostly, unilateral lymph gland get involved. And the lesion of most of patients with alone scrofula only have effect on neck. Yet most swollen lymph gland is located in Ⅱ,Ⅲ,Ⅳ district of inside–outside edge of sternocleidomastoid, and it could have effect on VA district(Ahuja et al.,2001). For TB combined, the position of lymphadenectasis in neck is related to phthisis focus. For patients with malignant lymphoma, most swollen lymph gland spread along Ⅱ,Ⅲ,Ⅳ inside and outside edge of sternocleidomastoid, and swollen lymph gland in VB district often accompany with mediastinal lymphadenectasis. Neck lymph node metastasis of head-neck tumors usually start at sentinel node (Iannitti et al.,2010; Hwang et al.,2011), and the size is the biggest frequently. Lymph node metastasis of head-neck tumors proceeds as the direction of lymphatic drainage (Ehsan-ul-Haq et al.,2011), little metastatic carcinoma spreads in IA district, yet in IB district, mostly, oral cavity cancer metastasis spreads, and cancer may invade nose, sinuses, mouth and face. ⅡA, ⅡB,Ⅲ,Ⅳ district are vein line feed in neck, lymph node metastasis mainly from nasopharyngeal darcinoma and tonsil cancer, lymph node metastasis in VB district mainly from nasopharyngeal darcinoma, tonsil cancer and laryngeal cancer. But VI district, mainly thyroid cancer metastasis distributed. Primary thoracoabdominal metastatic carcinoma mainly appears on supraclavicular lymph nodes, except some appear under jaw, upper neck, even Posterior Triangle of the Neck. Mostly, gastrointestinal carcinomas metastasis invades VB district left side at first, lung cancer transfers to VB district offside, and cross shift to lymph gland offside as well. GTVT of pleuroperitoneal cavity in VB district should be explored, and there are obvious differences in primary tumor between VA and VB district.

Prognosis of neck lymph metastatic carcinoma is affected by various factors, and it is related to variety of disease and the length of illness intimately. Collecting wide range of lymph drainage in head and neck in upper and medium cervical lymph node, as most of them is sentinel lymph node and it is still the early period of cancer when discovered, the prognosis of metastatic carcinoma is generally believed to be fine. Comparing upper lymph node enlargement, swelling proportion of lower neck caused by abdmen-thorax metastatic carcinoma is higher (Minghuan et al.,1998). Last but not all, Swollen supraclavicular lymph nodes should be paid enough attention clinically.

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