Letter to the Editor

Relationship between expression of cancer-related proteins and tumor invasiveness in thymoma

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1. Introduction

Distinction between non-invasive and invasive thymomas is almost impossible by histologic examination alone, because the morphology of invasive thymoma does not significantly differ from that of non-invasive thymoma [1,2]. However, tumor invasiveness is regarded as the most important factor affecting survival in thymoma [3].

In the present study, we examined the expression of some cancer-related proteins in thymoma by immunohistochemistry to determine whether the expression of these proteins is different between non-invasive and invasive thymomas.

2. Materials and methods

Thirty-eight randomly selected patients with thymoma who were treated surgically at Miyazaki Medical College were included in this study. Postoperative staging was made according to the Masaoka staging system [3]. There were 18 non-invasive thymomas (NT: clinical stage I) and 20 invasive thymomas (IT: clinical stage II, III or IV).

Surgically resected tissue samples previously fixed in formalin and embedded in paraffin were used in this study. Immunohistochemical staining was performed using specific antibodies against p53 (Dako, Glostrup, Denmark), bcl-2 (Dako), EMA (Dako), CEA (Dako), nm23-H1 (Novocastra Laboratories, Newcastle, UK) and Ki67 (Immunotech, Marseille, France).

3. Results

The positive staining was found as follows; p53 (NT: 5.6%; IT: 60%, P = 0.0009), bcl-2 (NT: 5.6%; IT: 25.0%, P = 0.230), EMA (NT: 0%; IT: 50%, P = 0.0008), CEA (NT: 5.6%; IT: 25.0%, P = 0.230), nm23-H1 (NT: 33.3%, IT: 80.0%, P = 0.009). The Ki67 labeling index of NT and IT was 2.95 ± 3.19 and 2.58 ± 4.71, respectively (P = 0.807).

Furthermore, there was a significant relationship between p53, EMA and nm23-H1 expression and clinical stage (Spearman rank correlation: p53; r-value = 0.731, P < 0.0001, EMA: r-value = 0.750, P < 0.0001, nm23-H1: r-value = 0.632, P = 0.0001). A trend toward relationship between bcl-2 and CEA expression and clinical stage was also found.

4. Discussion

Our results indicated a significant difference in p53 and EMA expression between non-invasive and invasive thymomas. Moreover, in non-invasive thymoma, p53 positive case was only one and none of our cases showed EMA expression. Thus, taken together, the expression of p53 and EMA might correlate with tumor invasiveness but not tumorigenesis in thymoma.

We also found a significant difference in nm23-H1 expression between non-invasive and invasive thymomas. Expression of nm23-H1 is thought to play a specific biological role in suppressing tumor metastasis [4]. However, our results indicated a positive relationship between nm23-H1 expression and tumor invasiveness. Therefore, the role of nm23-H1 in thymoma differs from that in other cancers.

We could not find any differences in the expression of bcl-2 and CEA between non-invasive and invasive thymomas. However, our data showed a trend toward relationship between CEA expression and clinical stages. Therefore, the possibility remains that expression of bcl-2 and CEA in thymoma might play roles in tumor invasiveness. Our results did not demonstrate a correlation between Ki67 expression and invasiveness in thymoma, indicating that non-invasive thymoma is similar to invasive thymoma with regard to proliferative activity.

In conclusion, we found significant differences in p53, EMA and nm23-H1 expression between non-invasive and invasive thymomas. The invasive nature of thymoma may be related to the expression of these cancer-related proteins.

References


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Letter to the Editor

Multiple aortic valve papillary fibroelastoma: do not miss the other one

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The etiology of papillary fibroelastoma is unknown [4], but our third case presented a surprising finding: coexistence of a papillary fibroelastoma and Lambl’s excrescence on the same valve, which constitutes an additional clinical, not histological, argument in support of the hypothesis that these lesions correspond to different stages of the same tumor [5].

References


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Letter to the Editor

Scope-guide of stent-graft for acute dissection

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Keywords: Stent-graft; Aortic dissection; Endoscope

We read the article by Orihashi et al. entitled ‘Endovascular stent-grafting via the aortic arch for distal aortic arch aneurysm’ with great interest [1]. In this report, the authors detail the surgical technique of arch replacement using stent-graft via the aortic arch. We would like to add two important points to the discussion in this article. This technique is highly useful, especially in the replacement of the aortic arch in acute dissection [2]. Stent-graft efficiently reinforces the dissected distal aorta to prevent the...