肿瘤标记物在肺癌诊断中的意义
张力 李龙芸 李槐 周纯武

【摘要】目的 明确组织多肽抗原（TPA）、细胞角质蛋白（CK）、神经特异性烯醇化酶（NSE）在各种病理类型肺癌和其他良性肺部疾病诊断中的意义。方法 采取血清标本136例，其中肺部良性病变组39例，肺腺癌组34例，肺鳞癌组39例，小细胞肺癌组8例，不能分型肺癌组15例。NSE、CK、TPA均采用酶联免疫吸附法检测，NSE用放射免疫法检测，结果以均值±标准差和特异度及敏感度两种方式评价。结果 TPA在各组肺癌患者中均高于正常值，但小细胞肺癌组的TPA与正常值无显著性差异；CK在肺腺癌、肺鳞癌、不能分型肺癌组中高于正常值；NSE仅在小细胞肺癌组明显高于正常值；肺部良性病变组的TPA值高于正常值，CK和NSE与正常值无显著性差异。TPA对诊断肺癌的敏感度较高，但特异度仅为44.0%；CK的特异度为48.0%，但敏感度较低，只有13.0%；NSE的特异度为50.0%，对小细胞肺癌的敏感度为83.0%。结论 TPA在肺部病变中的敏感度都较高，但对各种病理类型肺癌的特异度不高，不宜做为肺癌的肿瘤标记物；CK对肺癌的特异度较强，但敏感度较低；NSE对小细胞肺癌的特异度和敏感度均较强，可以作为小细胞肺癌的标志物。

【关键词】TPA CK NSE 肺肿瘤 诊断
【中图分类号】R734.04

Clinical significance of tumor markers in the diagnosis of lung cancer ZHANG Li· Longyun· Li Huai· ZHOU Chunwu· Department of Respiratory Diseases, Peking Union Medical College Hospital, CAMS and PUMC, Beijing 100730, P. R. China

Abstract Objective To determine the clinical value of serum TPA, Cyfra 21.1 and NSE in the diagnosis of lung cancer. Methods The serum samples of 136 patients were measured including 15 adenocarcinomas, 39 squamous cell carcinomas, 8 small-cell lung cancers, 34 unclassified lung cancers and 40 benign pulmonary diseases. Serum TPA and Cyfra 21.1 were detected by ELISA and the normal value was ≤ 0.9 μg/l and ≤ 3.6 μg/l respectively. Serum NSE was detected by radioimmunological method and the normal value was ≤ 20 μg/l. All data were dealt with t and χ² test. Results The level of TPA in each lung cancer group was significantly higher than the normal value except that for in SCLC group. The level of Cyfra 21.1 in adenocarcinomas, squamous cell carcinomas and unclassified lung cancer groups was significantly higher than the normal value. The level of NSE in SCLC group was significantly higher than the normal value.

In the benign pulmonary disease group the level of TPA was significantly higher than the normal value. TPA was sensitive for the diagnosis of lung cancer and the sensitivity was from 69.2% to 87.5% but the specificity was low. The specificity of Cyfra 21.1 was 97.6% but the sensitivity was low. The sensitivity of NSE was 12.5%--35.9% and specificity 82.9% of NSE were high for SCLC. Conclusion TPA shouldn’t be a qualified tumor marker for lung cancer because of low specificity the specificity of Cyfra 21.1 is higher but the sensitivity is lower. NSE may be a satisfactory tumor marker for SCLC.

Key words TPA Cyfra 21.1 NSE Lung neoplasms Diagnosis

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tal protein Cyfra 21.1 specific enolase NSE TPA Cyfra 21.1 NSE

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1

1997 1999 3 53 31 84 40 34 39 8 40 15

15 34 TPA Cyfra 21.1 TPA <= 0.9 μg/L

NSE <= 3.6 μg/L NSE <= 20 μg/L

Cyfra 21.1 <= 3.6 μg/L NSE <= 20 μg/L


tal protein Cyfra 21.1 specific enolase NSE TPA Cyfra 21.1 NSE

2

2.1 TPA Cyfra 21.1 NSE 1 1 1 1 1 1 1 1

2.2 TPA Cyfra 21.1 NSE 1 1 1 1 1 1 1

NSE 1 1 1 1 1 1 1 1

Table 1 The average values of TPA Cyfra 21.1 and NSE in different groups x ± s

<table>
<thead>
<tr>
<th>Markers</th>
<th>Adenocarcinoma</th>
<th>Squamous cell carcinoma</th>
<th>Small-cell lung cancer</th>
<th>Unclassified lung cancer</th>
<th>Benign pulmonary diseases</th>
</tr>
</thead>
<tbody>
<tr>
<td>TPA μg/L</td>
<td>n = 15</td>
<td>n = 39</td>
<td>n = 8</td>
<td>n = 34</td>
<td>n = 40</td>
</tr>
<tr>
<td>Cyfra 21.1 μg/L</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NSE μg/L</td>
<td></td>
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</tr>
</tbody>
</table>

Compared with their responsive normal values * * * \( P < 0.05 \) * \( P < 0.01 \)

Table 2 The sensitivity of TPA Cyfra 21.1 and NSE in different lung cancer groups

<table>
<thead>
<tr>
<th>Markers</th>
<th>Adenocarcinoma</th>
<th>Squamous cell carcinoma</th>
<th>Small cell lung cancer</th>
<th>Unclassified lung cancer</th>
</tr>
</thead>
<tbody>
<tr>
<td>TPA</td>
<td>Adenocarcinoma</td>
<td>Squamous cell carcinoma</td>
<td>Small cell lung cancer</td>
<td>Unclassified lung cancer</td>
</tr>
<tr>
<td>NSE</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Cyfra 21.1 40 × 10³ ~ 68 × 10³

NSE
浓度高于正常值，达 82.9%。其在各组患者中特异度为 75.0%～23.1%。对小细胞肺癌的敏感度最高，为 54.3%，其他类型的敏感度只有 22.5%。与国外研究的结果相一致。由此说明，CYP21.1 在肺癌诊断中的特异性较强，对小细胞肺癌尤其有价值，可以作为小细胞肺癌的标记物。

参考文献
2. CYP21.1, CYFRA21.1, NSE 为目前常用的肿瘤标志物。