



液基薄层涂片技术在乳腺癌患者免疫细胞化学检测中的应用

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Immunocytochemistry Assay in Breast Cancer Specimens by Thin-Layer Cytology Slides

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- 摘要
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摘要

目的

通过细胞涂片检测乳腺癌ER、PR及HER-2的过度表达与术后组织病理切片比较, 探讨其应用于临床晚期患者的可行性。方法细针吸液基薄层涂片(TLC)、免疫细胞化学方法(ICC)和术后组织病理切片的免疫组织化学(IHC)比较。计算准确率、敏感度、特异性、阳性预见值、阴性预见值、假阳性率、假阴性率等。结果检测免疫细胞化学TLC标本205例, 满意标本ER为195例; PR194

例; HER-2为202例, 脱片均有2例, 占1.0%。170例有组织病理学结果对照。ER阳性表达率: IHC为60.0%, ICC为58.5% ($P=0.765$); PR阳性表达率: IHC为70.6%, ICC为59.3% ($P<0.05$); HER-2阳性表达率: IHC诊断准确性为57.5%, ICC为38.1% ($P<0.05$)。乳腺癌在51~61岁年龄组例数最多(59例, 占32.3%), 淋巴结转移占50.8%; 其次为40~50岁组(51例, 占27.9%), 淋巴结

转移占47.1%; 29~39岁年龄组例数最少(16例, 占8.7%), 但有14例发生淋巴结转移, 占87.5%。本组病例ER+/PR+/HER-2在大于73

岁年龄组表达率最高, 为8.7%, 随着年龄的递减表达率降低, 29~39岁年龄组表达率仅为0.5%, 这和临床表现及细胞形态是一致的。与组织病理学IHC结果比较准确率、敏感度、特异性、阳性预见值、阴性预见值、假阳性率、假阴性率。ER分别为93.8% (Kappa=0.867)、94.1%、93.2%、96.0%、90.2%、2.5%和3.8%; PR分别为88.1% (Kappa=0.722)、88.5%、87.0%、94.3%、75.5%、3.8%和8.2%; HER-2分别为80.2% (Kappa=0.616)、67.7%、97.2%、97.0%、69.0%、1.2%和18.6%。结论细胞学ICC检测ER、PR及HER-2的过度表达, 与组织学IHC比较, 其准确率高, 一致性好。当组织学标本难以取得时, 可以考虑用细针穿刺标本检测ER、PR的表达。涂片检测受体应注意肿瘤细胞的异质性。HER-2结果的评判不应与组织学等同, 细胞学可以作为筛选, 阳性者宜进一步做FISH检测。

关键词: 细针针吸穿刺 乳腺癌 液基薄片 免疫细胞化学 激素受体

Abstract:

Objective

To detect overexpression of ER, PR, HER-2 by TLC in breast cancer, compare the results of immunocytochemistry (ICC)

with that of immunohistochemistry (IHC), and observe their available in advanced breast cancer. Methods The methods

of ICC and IHC were used in breast cancer specimens. Results The satisfied slides for ER, PR and HER-2 were 195, 194

and 202 cases in all 205 cases, respectively. There were 2 exfoliative slides. They occupied 1.0%. One hundred and seventy cases have histopathology results. The positive expression rate of ER was 60.0% in IHC, 58.5% in ICC

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($P=0.765$),PR was 70.6% in IHC,59.3% in ICC($P<0.05$),and HER-2 was 57.5% in IHC,38.1% in ICC ($P<0.05$).The patients were mostly in the age group 51~61years old (59 cases,32.3%).50.8% patients had lymph node metastasis in this group.47.1% patients had lymph node metastasis in 40~50 years old age group.14 out of 16 cases had lymph node metastasis in 29~39 years old age group.They occupied 87.5%.ER+/PR+/HER-2- overexpression were the highest in 73 years old age group,and the lowest in 29~39 years group.This was consistent with clinical feature and cytologic morphology.The results of assessment of FNA specimens agreed with those of the histological sections in 150 of the 160 cases in ER.Their sensitivity,specificity,positivity predictive value,negative predictive value,false positive rate,false negative rate were 94.1%,93.2%,96.0%,90.2%, 2.5% and 3.8%,respectively.The results of assessment of FNA specimens agreed with those of the histological sections in 140 of the 159 cases in PR.Their sensitivity,specificity,positivity predictive value,negative predictive value,false positive rate,false negative rate were 88.5%,87.0%,94.3%,75.5%, 3.8%,and 8.2%,respectively.The results of assessment of FNA specimens agreed with those of the histological sections in 134 of the 167 cases in HER-2.Their sensitivity,specificity,positivity predictive value,negative predictive value,false positive rate,false negative rate were 67.7%,97.2%,97.0%,69.0%, 1.2% and 18.6%,respectively.ConclusionThe results of assessment of ICC have a good correlation with that of IHC.When only cytologic material might be available,it would be useful to be able to identify ER,PR status by using FNA specimens.The intratumoral heterogeneity of positive cells was the main reason for discordant results between cytological and histologic specimens.HER-2 diagnosis standard of ICC should not be the same as that of IHC in HER-2 test.Her-2 overexpression can be tested in FNA specimens,whereas positive HER-2 staining on TLC would require further validation by FISH.

Key words: **Fine needle aspiration Breast cancer Thin-Layer cytology Immunocytochemistry Hormone receptor**

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