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血清和胸水中 CA125 在结核性和癌性胸水中的表达及临床意义

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摘要 目的:探讨血清和胸水中 CA125 在结核性和癌性胸水中的表达及鉴别诊断意义。**方法:**抽选我院确诊的结核性胸水病人 85 例(结核组)和癌性胸水病人 71 例(癌组),检测两组患者血清和胸水中 CA125 表达,并以胸水/血清中 CA125 比值 >10 ($p\text{-CA125/s-CA125}>10$) 为临界值,观察其对癌性胸水的鉴别特异度、灵敏度及准确性。**结果:**癌组胸水中 CA125 表达及 $p\text{-CA125/s-CA125}$ 比值均显著高于结核组 ($P<0.05$);但血清中两组 CA125 表达比较差异无显著性 ($P>0.05$);两组胸水中,以 35U/ml 为临界值,两组患者阳性率 92.9%(79/85)、100%(71/71)比较差异无显著性 ($X^2=7.0718, P=0.0078$)。癌组中 $p\text{-CA125/s-CA125}$ 比值 >10 的比率(84.5% VS 17.6%)明显高于结核组 ($X^2=66.6244, P=0.0000$);并以其为诊断癌性胸水的临界值,鉴别诊断特异度、灵敏度及准确性分别为 82.3%、84.5%、83.3%。**结论:**血清和胸水中 CA125 表达对于鉴别结核性或者是癌性胸水的临床意义不大,但是 $p\text{-CA125/s-CA125}$ 比值对于鉴别结核性和癌性胸水具有一定临床价值。

关键词:CA125;鉴别诊断;结核性胸水;癌性胸水

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The Expression and Clinical Significance of CA125 in Serum and Pleural Fluid in Malignant Pleural Effusion and Tuberculous Pleural Effusion

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ABSTRACT Objective: To investigate expression and clinical significance of serum and pleural fluid CA125 in the malignant pleural effusion and tuberculous pleural effusion. **Method:** 85 cases of patients who were diagnosed with tuberculous pleural effusion (TB group) and 71 cases of patients with malignant pleural effusion (cancer group) in our hospital were selected, the CA125 expression in serum and pleural fluid of patients in two groups were detected, and pleural fluid/serum CA125 ratio >10 ($p\text{-CA125/s-CA125}>10$) were used as the critical value. The specificity, sensitivity and accuracy for the differential diagnosis of malignant pleural effusion were observed. **Results:** The CA125 levels and $p\text{-CA125/s-CA125}$ in pleural fluid in cancer group were significantly higher than those in the TB group ($P<0.05$); but the serum level of CA125 of the two groups were not significantly different ($P>0.05$); 35U/ml were used as the critical value for pleural fluid in two groups, the positive rate of the two groups 92.9% (79/85), 100% (71/71) presented no significant difference ($X^2=7.0718, P=0.0078$). The ratio of $p\text{-CA125/s-CA125}$ ($p\text{-CA125/s-CA125}>10$) of cancer group (84.5% VS 17.6%) was significantly higher than that of TB group ($X^2=66.6244, P=0.0000$); and its diagnosis of malignant pleural effusion threshold, identification diagnostic specificity, sensitivity and accuracy were 82.3%, 84.5%, 83.3% respectively. **Conclusion:** CA125 serum and pleural fluid levels present little clinical value for the differential diagnosis of tuberculosis and malignant pleural effusion, but $p\text{-CA125/s-CA125}$ has clinical value for the above differential diagnosis.

Key words: CA125; Differential diagnosis; Tuberculous pleural effusion; Malignant pleural effusion

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前言

CA125 是一种起源于胎儿体腔上皮组织的糖蛋白,在血清和胸水中 CA125 以群体形式存在,在人体胸腹膜、心包、羊膜以及生殖道、子宫内膜等间皮组织细胞表面广泛分布^[1-3]。当这些组织部位受到炎症刺激或者是发生恶性变时,血清中 CA125 表达明显升高。CA125 作为肿瘤(尤其是卵巢癌)的一种检测标志物已被临床广泛认可,其对肺癌的诊断及治疗预后判断亦具

有一定的临床价值^[4]。但近年来大量研究发现,CA125 在腹膜炎、结核性胸膜炎等非肿瘤性疾病患者中的血清以及渗出液中亦显著升高^[5-8]。CA125 应用胸腔积液检查已成为临床辅助诊断结核病以及观察疗效预后的一个重要指标。本研究抽选我院确诊的结核性和癌性胸腔积液患者 156 例,通过对其血清和胸水中 CA125 表达进行检测比较,探讨 CA125 在癌性胸水诊断的价值,现报道如下。

1 资料和方法

1.1 临床资料

抽选我院 2012 年 3 月 -2013 年 9 月收治胸腔积液患者

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156例,其中结核性胸腔积液85例:男45例,女40例,年龄20-81岁,平均 (48.25 ± 8.57) 岁,经X线、PPD实验,结核抗体检查以及痰找抗酸杆菌等确诊,随访5个月胸腔积液未出现复发。其中癌性胸腔积液71例:男40例,女31例,年龄21-80岁,平均 (50.33 ± 8.62) 岁,均经CT检查、脱落细胞学以及支气管镜病理活检进行确诊。两组均排除感染患者以及存在免疫系统疾病者;两组在临床表现、性别、年龄上比较差异无显著性($P > 0.05$)。

1.2 方法

患者入院后第1d穿刺抽取胸水标本,入院后第2d清晨抽取空腹静脉血,采用Eleesvs2010型全自动电化学发光测定仪进行CA125测定,CA125试剂盒购自德国罗氏公司,严格按照说明书进行测定操作,CA125正常参考值为 <35 U/ml。

1.3 观察指标

比较两组患者血清和胸水中CA125表达,并以胸水/血清中CA125比值 >10 ($p\text{-CA125/s-CA125} > 10$)为临界值,观察其

对癌性胸水的鉴别特异度、灵敏度及准确性。

1.4 统计学方法

采用SPSS13.0软件进行统计分析,计量资料以 $(\bar{x} \pm s)$ 表示,以t值检验,计数资料以n%表示,采用 χ^2 检验, $P < 0.05$,差异有统计学意义。

2 结果

2.1 两组胸水和血清中CA125表达比较

癌性组胸水中CA125表达及 $p\text{-CA125/s-CA125}$ 比值均显著高于结核组($P < 0.05$);但血清中两组CA125表达比较差异无显著性($P < 0.05$),详见表1。

2.2 以35 U/ml为临界值,两组胸水阳性率比较

两组患者胸水中,以35 U/ml为临界值,两组患者阳性率92.9%(79/85)、100%(71/71)比较差异无显著性($X^2=7.0718$, $p=0.0078$)。

表1 治疗前后免疫指标比较

Table 1 Comparison of immune parameters before and after treatment

组别 Groups	例数 Cases	s-CA125 (U/ml)	p-CA125 (U/ml)	p-CA125/s-CA125
结核组 TB group	85	65.78 ± 43.91	282.34 ± 279.13	6.91 ± 5.34
癌性组 Cancer group	71	78.57 ± 36.82	823.52 ± 326.78	14.21 ± 5.41
T		1.9463	11.1560	8.4522
P		0.0534	0.0000	0.0000

2.3 以 $p\text{-CA125/s-CA125}$ 比值 >10 为临界值,癌性胸水鉴别诊断的准确性

将 $p\text{-CA125/s-CA125}$ 比值绘制成散点图(图1),根据图1数据统计显示,若以比值 >10 为癌性组和结核组的分界值,癌

性组中 $p\text{-CA125/s-CA125}$ 比值 >10 的比率(84.5% VS 17.6%)明显高于结核组($X^2=66.6244$, $p=0.0000$);根据表2计数出以 $p\text{-CA125/s-CA125}$ 比值 >10 为临界值诊断癌性胸水的特异度、灵敏度及准确性分别为82.3%、84.5%、83.3%。

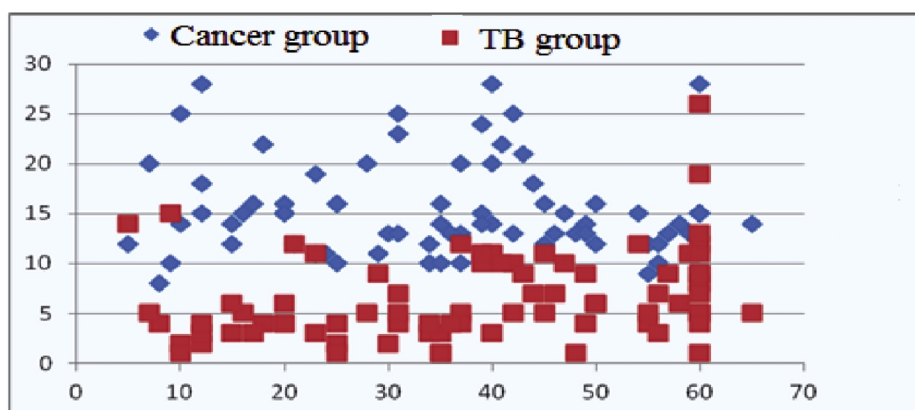


图1 两组 $p\text{-CA125/s-CA125}$ 散点图

Fig.1 $p\text{-CA125/s-CA125}$ scatter diagram of two groups

2.4 肺癌观察组与肺癌对照组患者远期生存率比较

肺癌观察组患者半数生存期为20个月,术后1、2年生存率分别为86.79%和41.51%;而肺癌对照组半数生存期仅为12个月,术后1、2年生存率分别为57.50%和22.50%,两组比较,差异有统计学意义($P < 0.05$),见表3。

3 讨论

CA125是一种分子量为2002100KD,起源于胎儿体腔上皮组织的糖蛋白。Barbieri等采用单克隆抗体通过免疫组化实验研究证实,CA125存在于正常胚胎体腔如胸腹膜、心包膜

表 2 以 p-CA125/s-CA125 比值 >10 为临界值诊断癌性胸水的结果(n%)

Table 2 The diagnosis of malignant pleural effusion results taking p-CA125/s-CA125>10 as the critical value(n%)

组别 Groups	p-CA125/s-CA125		合计 Total
	比值 Ratio<10	比值 Ratio >10	
结核组 TB group	11	60(84.5)	71
癌症组 Cancer group	70	15(17.6)	85
合计 Total	81	75	156
灵敏度 Sensitivity(%)		84.5	
特异性 Specificity(%)		82.3	
准确度 Accuracy(%)		83.3	

等间皮细胞和输卵管、子宫颈内膜等上皮细胞来源组织中,同时也存在于支气管黏膜上皮,当这些细胞受到炎症或者恶性肿瘤是等病理因素刺激时,CA125 激活使得血液中的 CA125 表达增高^[9,10]。因此当发生结核性胸膜炎以及肺癌时,均会刺激胸膜间皮细胞使得 CA125 基因被激活,产生 CA125 高表达并被大量释放到胸腔积液中,并且可经胸膜回吸收进入到机体血循环中,进一步引起结核性胸膜炎以及癌症患者中血清 CA125 增高^[11,12]。而对于结核性胸膜炎以及肺癌患者,其胸腔积液中 CA125 水平亦均可显著增高,因此对于诊断和鉴别诊断结核性胸膜炎和恶性肿瘤胸腔积液仍是一个棘手问题^[13,14]。

本研究结果显示癌症组胸水中 CA125 表达均显著高于结核组($P<0.05$);但血清中癌症组 CA125 表达虽然较结核组表达有所升高,但是比较差异无显著性($P<0.05$)。其原因可能是为癌性细胞刺激机体或肿瘤患者体内本身细菌代谢产生的各种有毒产物增加了对间皮细胞的刺激,使得 CA125 抗原物被大量地释放到胸液当中,虽然可经胸膜回吸收进入到机体血循环中,但是胸膜腔毕竟是一个密闭的腔隙,胸水一般不和血循环相通,因此胸水中 CA125 抗原物不易进入到血液循环中而不能被肝脏灭活,因此癌症组和结核组患者血清中 CA125 表达均显著低于胸水中含量,且比较差异无显著性($P<0.05$)。

目前关于 CA125 在鉴别良恶性胸水的临床价值方面各相关报道意见不一。有学者^[15-17]认为良恶性胸水间 CA125 表达多呈重叠性,因此胸水 CA125 在鉴别良恶性胸水中的临床意义不大。而 Fujimoto N 等^[18-20]研究认为 CA125 表达在结核性、肺癌胸腔积液中存在显著差异性,且后者水平明显高于前者。本研究表 1 虽然显示癌症组胸水中 CA125 表达均显著高于结核组($P<0.05$),但是以 35 U/ml 为临界值,两组患者阳性率 92.9%(79/85)、100%(71/71) 比较差异无显著性($\chi^2=7.0718, p=0.0078$)。因此笔者认为尚不能以胸水 CA125 表达来鉴别诊断结核性和肿瘤性胸水,需制定一种更为合适的临界值来确定癌性胸水阳性标准或者是辅助其他指标来指导临床鉴别诊断。

本研究将 p-CA125/s-CA125 比值绘制成散点图(图 1),根据图 1 数据统计显示,若以比值 >10 为癌症组和结核组的分界值,癌症组中 p-CA125/s-CA125 比值 >10 的比率(84.5% VS 17.6%)明显高于结核组($\chi^2=66.6244, P=0.0000$);根据表 2 计数出以 p-CA125/s-CA125 比值 >10 为临界值诊断癌性胸水的特异度、灵敏度分别为 82.3%、84.5%,具有较高的鉴别诊断准确性 83.3%。因此笔者认为 p-CA125/s-CA125 比值 >10 对于癌

性胸水的鉴别诊断有着更有力的参考价值。

综上所述,血清和胸水中 CA125 表达对于鉴别结核性或者是癌性胸水的临床意义不大,但是 p-CA125/s-CA125 比值对于鉴别结核性和癌性胸水具有一定临床价值。

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