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钼靶 X 线摄片联合肿瘤相关标志物检测对乳腺癌的诊断价值

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摘要 目的:探讨乳腺钼靶 X 射线摄片与血清糖类抗原 15-3(CA15-3)、癌胚抗原(CEA)和骨桥蛋白(OPN)联合检测对乳腺癌的临床诊断价值。**方法:**选择在我院经手术和病理证实为乳腺癌的患者 60 例作为研究组,另选取 60 例健康体检者作为对照组。分别检测两组的血清 CA15-3、CEA 和 OPN 水平,并采用乳腺钼靶 X 射线检查。比较 X 射与血清学检测单独检测及联合检测的阳性率。**结果:**研究组患者血清 CA15-3、CEA 及 OPN 水平均显著高于对照组,差异具有统计学意义(P<0.05);血清 CA15-3、CEA、OPN 和钼靶 X 射线摄片联合检测的敏感性显著高于单独检测,差异具有统计学意义(P<0.05)。**结论:**对乳腺癌患者进行钼靶 X 射线摄片及肿瘤相关标志物检测可提高阳性检出率,有利于乳腺癌的早期诊断及治疗。

关键词:乳腺癌;钼靶 X 射线;肿瘤相关标志物;血清学检查

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Diagnostic Value of X-ray Combined with Detection of Tumor-related Markers in Serum of Breast Cancer

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ABSTRACT Objective: To investigate the diagnostic value of mammography X-ray radiography and serum detection of carbohydrate antigen 15-3 (CA15-3), carcinoembryonic antigen (CEA) and osteopontin (OPN) for breast cancer. **Methods:** 60 cases with breast cancer who were treated in our hospital were selected as the study group, and 60 healthy volunteers were selected as a control group. The two groups were detected in serum CA15-3, CEA and OPN levels and the use of mammography X-ray examination. Comparison of X-ray-positive rate and serology testing and joint detection alone. **Results:** The study group serum CA15-3, were significantly higher than CEA and OPN water, the difference was statistically significant(P<0.05); serum CA15-3, CEA, OPN and mammography X-ray radiography combined detection significantly higher detection sensitivity alone, the difference was statistically significant (P<0.05). **Conclusion:** Radiography and tumor-associated markers for breast cancer patients concluded the X-ray mammography can increase the positive detec- - tion rate for early diagnosis and treatment of breast cancer.

Key words: Breast cancer; X-ray; Tumor-related Markers; Serum detection

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前言

乳腺癌(Breast cancer)是严重危害女性健康的恶性肿瘤,发病率和死亡率呈逐年上升趋势,多数患者确诊时肿瘤已发展为中晚期,预后较差。因此,对乳腺癌进行早期诊断和治疗是提高患者生存质量的关键[1-3]。近年来,随着高清晰度数字化乳腺专用 x 射线的广泛应用,乳腺癌的诊断率显著提高,但该方法易受患者年龄的影响,且放射对身体有一定危害[4,5]。此外,乳腺肿瘤相关标志物 CA15-3、CEA 和 OPN 的血清学辅助诊断虽然具有较高的准确性,但单项标记物检测易发生漏诊,诊断效果并不理想[6,7]。因此,探索多项指标联合检测以提高准确率是目前临床研究的重点[8]。本研究对 2012 年 10 月至 2014 年 2 月在我院确诊为乳腺癌患者的 x 线片和肿瘤标志物检测结果进行回顾性分析，以探讨乳腺钼靶 X 射线摄片及 CA15-3、CEA、OPN 血清学检测对乳腺癌的诊断价值，为肿瘤的早期治疗提供依据。

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1 资料与方法

1.1 资料

选取 2012 年 10 月至 2014 年 2 月在我院经组织影像学诊断和术后病理证实确诊为乳腺癌的患者 60 例作为研究对象,患者均为女性,年龄 38-73 岁,平均 56.5± 11.2 岁。另选取同期进行体检未发现乳腺疾病及其他肿瘤的 60 位志愿者作为对照组,年龄 36-69 岁,平均 53.4± 12.6 岁,均无乳腺疾病史。两组基本资料无显著差异(P>0.05),具有可比性。

1.2 方法

1.2.1 乳腺钼靶 X 射线 采用专用数字式乳腺 X 射线机摄片,术前先进行常规头尾位及侧斜位检查及拍摄,如无可疑特

征则确立诊断,如两侧不对称疑有病灶者行局部放大摄影。乳腺癌的判定标准是:钼靶摄影片的征象包括乳腺癌的直接征象或间接征象。直接征象有肿块或结节、钙化;间接征象主要包括皮肤增厚和/或局限凹陷、乳头内陷和漏斗征、大导管征、伪足征及彗星尾征、牛角征等。

1.2.2 **血清学检测** 晨起空腹抽静脉血 3 mL,用促凝管采集,3000 r/min 离心 5 min,分离血清,用于检测 CA15-3,CEA 和 OPN,样本采集后 2 h 内上机检测。用化学发光免疫分析法检测 CAl5-3 和 CEA,酶联法检测 OPN,操作步骤严格按照说明书进行。CA15-3≥ 28 U/ml,CEA≥ 10 ng/ml 为阳性。

1.3 **统计学处理**

所有数据采用 SPSS16.0 统计软件进行分析处理。组间比较采用 t 检验或 fishert 检验,计数资料采用($\bar{x}\pm s$)表示,阳性率比较采用 检验,a=0.05 为检验水准,以 P<0.05 为差异具有统计学意义。

2 结果

2.1 **两组血清** CA15-3、CEA **和** OPN **水平比较**

研究组患者血清 CA15-3、CEA、OPN 水平显著高于对照组,差异有统计学意义(P<0.05),见表 1。

表 1 两组血清 CA15-3、CEA、OPN **比较**($\bar{x}\pm s$)

Table 1 Comparison of CA15-3, CEA and OPN levels in serum of patients between two groups

Group	Case	CA15-3(U/mL)	CEA(ng/mL)	OPN(μg/L)
Control group	60	7.9± 5.5	2.4± 1.1	10.2± 5.3
Study group	60	82.4± 8.2	28.4± 8.3	30.6± 7.9
t		16.081	20.125	13.897
P		0.00	0.00	0.00

2.2 **两组乳腺钼靶** X **射线和各指标单项检测的阳性率比较**

研究组乳腺钼靶 X 射线摄片及血清 CA15-3、CEA 和 OPN 检测的阳性率显著高于对照组,两组比较差异均有统计学意义(P<0.05)。见表 2。

表 2 钼靶 X **射线片、**CA15-3、CEA **和** OPN **单项检测阳性率**[n(%)]

Table 2 Comparison of positive rate of detection by either the X ray or the related indexes in serum

Group	Case	CA15-3(U/mL)	CEA(ng/mL)	OPN(ug/L)	X ray
Control group	60	2(3.33%)	3(5%)	0(0.0)	1(1.67%)
Study group	60	17(28.33%)	10(16.67%)	8(13.33%)	29(48.33%)
x^2		21.263	12.343	-	-
P		0.000	0.000	0.280	0.000

2.3 **单独检测和联合检测的阳性率比较**

对照组 CA15-3+CEA+OPN 检测的阳性率为 3.33%(2/60),CA15-3+CEA+OPN 和钼靶 X 射线联合检测的阳性率为 3.33%(2/60);研究组 CA15-3+CEA+OPN 检测的阳性率为 55%(33/60),CA15-3+CEA+OPN 和钼靶 X 射线联合检测的阳性率为 63.33%(38/60)。研究组单项检测和联合检查的检出率均显著高于对照组,差异具有统计学意义(P<0.05)。

3 讨论

乳腺钼靶 x 线摄影术是目前公认的检测早期乳腺癌的有效手段,特别是对微细钙化的显示,而微细钙化是 X 线诊断乳腺癌的重要征象[9]。当 X 射线片上表现为典型的恶性钙化,虽无其它恶性征象相伴,亦可诊断为乳腺癌[10]。肿块是乳腺癌最直接、最常见的 X 线征象,分叶、边缘毛刺、小尖角征等是诊断乳癌的重要征象[11]。据研究证实,乳腺钼靶 x 线摄影术单项测定的阳性率为 66.7%,且乳腺高频钼靶 x 线检查具有简捷、有效、无创等优点[12]。

CAl5-3 属糖蛋白,是一种乳腺癌的相关抗原,存在于乳腺癌细胞中,乳腺癌细胞会将其释放到血液循环中。研究表明,CAl5-3 对乳腺癌的早期诊断具有重要的临床意义[13]。乳腺癌患者血清 CA15-3 水平已被临床肯定为一种较为敏感的肿瘤标志物。CEA 是一种糖蛋白,也是较为广谱的血清肿瘤标志物之一,主要用于监测肿瘤发展,判断疗效和估计预后[14]。相关研究表明,CEA 在胃癌、胰腺癌、乳腺癌、结肠癌和胆管癌中的含量可见增高[15,16]。OPN 是一种磷酸化糖蛋白,也称转化相关性磷酸蛋白,在肿瘤的发生、转移中起重要的作用,它有明显促进肿瘤恶化的倾向[17]。有研究表明,OPN 在肿瘤转移患者血清中的水平明显升高[18,20]。因此,OPN 在细胞免疫应答、肿瘤发生及转移的作用备受关注[19]。

结合本研究,研究组患者血清 CA15-3、CEA、OPN 水平显著高于对照组,研究组乳腺钼靶 X 射线摄片单独检查、血清 CA15-3,CEA 和 OPN 单独检测及两种方法联合检测的阳性率均显著高于对照组,且联合检测的检出率高于单独检测,差异具有统计学意义(P<0.05)。结果说明,CA15-3,CEA,OPN 均可作为乳腺癌的辅助诊断指标,且联合检测可弥补单指标检测的不足,使乳腺癌的早期诊断率获得提高,对乳腺癌诊断具有重要意义。

因此,临床应采取多种方法联合检测乳腺癌以提高诊断的准确率,减少漏诊的发生。

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