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剪切波弹性成像对乳腺原位癌的诊断价值分析 *

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摘要 目的:探讨剪切波弹性成像(SWE)对乳腺原位癌的诊断价值。**方法:**回顾性分析 2015 年 8 月 -2017 年 8 月于我院病理证实的 26 个乳腺原位癌病灶和 45 个乳腺良性病灶,术前均分别行常规超声检查和 SWE 检查。比较两组病灶的弹性模量值差异,两种检查方法诊断敏感度、特异度、准确度、阳性预测值、阴性预测值,并构建受试者操作特征(ROC)曲线,分析 SWE 对乳腺原位癌的诊断价值。**结果:**乳腺原位癌病灶的弹性模量最大值、平均值、最小值和与脂肪组织弹性比值分别为 86.6± 26.7 kpa、56.6± 21.4 kpa、31.3± 15.7 kpa、6.7± 1.8,均明显高于乳腺良性病灶(P<0.05)。SWE 诊断敏感度、特异度、准确度、阳性预测值、阴性预测值分别为 92.31%、88.89%、90.14%、82.76%、95.23%,均显著高于常规超声成像(P<0.05)。弹性模量最大值、平均值、最小值及与脂肪组织弹性比值评价乳腺原位癌的 ROC 曲线下面积分别为 0.944、0.876、0.818、0.956。**结论:**乳腺原位癌病灶的弹性模量值高于良性病灶,SWE 对早期发现乳腺原位癌具有重要价值。

关键词:乳腺原位癌;剪切波弹性成像;超声

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Diagnostic Value Analysis of SWE for the Breast Carcinoma in Situ*

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ABSTRACT Objective: To assess the value of shear wave elasticity(SWE) for the diagnosis of breast carcinoma in situ. **Methods:** 26 cases of breast carcinoma in situ lesions and 45 cases of breast benign lesions which were confirmed by pathology in our hospital and given breast ultrasound examination and shear wave elasticity(SWE) imaging before operation were retrospectively analyzed. The differences of SWE quantitative elastography between breast carcinoma in situ lesions and breast benign lesions were compared. The sensitivity, specificity, accuracy, positive predictive value and negative predictive value of two kinds of examination methods were compared, and receiver operating characteristic (ROC) curve were created to evaluate the diagnostic value of shear wave imaging on carcinoma in situ. **Results:** The maximum, mean, minimum elasticity value and ratio (mass/fat) of breast carcinoma in situ lesions were 86.6± 26.7 kpa, 56.6± 21.4 kpa, 31.3± 15.7 kpa, 6.7± 1.8, which were significantly higher than those of the breast benign lesions (P<0.05). The sensitivity, specificity, accuracy, positive predictive value and negative predictive value of breast carcinoma in situ lesions were 92.31%, 88.89%, 90.14%, 82.76%, 95.23%, which were significantly higher compared to those of the ultrasound examination(P<0.05). The areas under the ROC curve of the maximum, mean, minimum elasticity value and ratio (mass/fat) were 0.944, 0.876, 0.818, 0.956. **Conclusion:** SWE quantitative elastography of breast carcinoma in situ lesions is higher than that of the breast benign lesions, SWE has an important value in early detection of carcinoma in situ.

Key words: Breast carcinoma in situ; SWE; Ultrasound

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前言

乳腺原位癌是指上皮细胞恶性克隆性增生但不超过基底膜,包括导管内原位癌和小叶原位癌。乳腺原位癌缺乏临床症状,患者容易延误就诊。虽然乳腺原位癌缺乏转移可能,其预后相对较好,复发可能性相对较低,但仍有进展为浸润性乳腺癌的可能。有研究表明乳腺原位癌术后 5 年生存率明显高于浸润性乳腺癌,早发现、早治疗乳腺癌对病人身心健康都有很大帮助[1-3]。因此,及时发现乳腺原位癌十分重要。

既往诊断乳腺原位癌主要依靠常规超声检查、钼靶、光散射等,但因其病理特征,乳腺原位癌病灶较小,影像学表现与良性病变类似,难以鉴别,容易漏诊、误诊[4,5]。近年来研究表明 SWE 有助于鉴别乳腺良恶性疾病[6,7]。但少有研究探讨乳腺原位癌这一特殊类型的乳腺癌,SWE 是否对其具有较好诊断价值,是否能明显提高乳腺原位癌的诊断正确率均尚不明确。本研究主要通过回顾性分析探讨了 SWE 对乳腺原位癌的诊断价值。

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1 资料与方法

1.1 一般资料

回顾性分析 2015 年 8 月 -2017 年 8 月于我院超声科行超声检查并行手术取得病理结果的 26 例乳腺原位癌患者共 26 个病灶和 40 例乳腺良性病变患者共 45 个病灶(其中 4 例为多发)。患者均为女性,年龄 23-68 岁,平均(47.7± 12.6)岁。病灶直径 0.8-3.2 cm,平均 1.60± 0.72 cm。

1.2 仪器

采用法国 SuperSonic Imagine Aixplorer 超声诊断仪,SL15-4 线阵探头,频率 4～15 MHz。

1.3 检查方法

患者取仰卧位,充分暴露患者双乳及双侧腋窝,对患者双乳及双侧腋窝进行多方位、多切面连续常规超声扫查,对病灶区域重点扫查,记录其声像特征,采用 BI-RADS 分类方法,BI-RADS 4 类以上诊断为恶性。SWE 则是常规超声扫查找到感兴趣区域后,切换到 SWE 模式,不施压,静置 3s,待图像稳定后,定帧、存储,并测得病灶弹性模量最大值、平均值、最小值和与脂肪组织弹性比值。必要时重复测量后取平均值。

1.4 统计学方法

采用 SPSS 22.0 软件统计软件进行数据分析。SWE 计量资料以平均值± 标准差($\bar{x}$± s),组间对比采用独立样本 t 检验,以 P<0.05 认为有统计学差异。以病理诊断为标准,分别计算常规超声和 SWE 对诊断乳腺原位癌和乳腺良性病变的诊断敏感度、特异度、准确度、阳性预测值、阴性预测值,各组间差异采用卡方检验,绘制 SWE 受试者操作特征(ROC)曲线,计算曲线下面积。

2 结果

2.1 病理结果

26 个原位癌病灶中,小叶原位癌 5 个,导管内原位癌 21 个;45 个乳腺良性病变中,导管内乳头状瘤 6 个,乳腺腺病 11 个,纤维腺瘤 18 个,炎症 4 个,腺病并纤维腺瘤 6 个。

2.2 常规超声声像图特征

26 个原位癌病灶直径 1.72± 0.66 cm,常规超声声像图特征为肿块型 13 个,片状低回声区型 6 个,导管型 6 个,单纯微钙化型 1 个,彩色多普勒示病灶内无彩色血流信号或有点条状血流信号,频谱多普勒示血流内阻力指数为 0.69± 0.10。45 个乳腺良性病灶直径 1.58± 0.70 cm,常规超声声像图特征大多为低回声结节、边界清、形态规则、内回声均匀,彩色多普勒示病灶内多无彩色血流信号或有点条状血流信号,频谱多普勒示血流内阻力指数为 0.65± 0.11。

2.3 SWE 声像图特征

乳腺原位癌弹性模量最大值、平均值、最小值和与脂肪组织弹性比值分别为:86.6± 26.7 kpa、56.6± 21.4 kpa、31.3± 15.7 kpa、6.7± 1.8(图 1);乳腺良性病变弹性模量最大值、平均值、最小值和与脂肪组织弹性比值分别为:40.2± 16.0 kpa、29.6± 12.7 kpa、17.6± 7.2 kpa、2.9± 1.3(图 2)。两组病灶间弹性模量值最大值、平均值、最小值和与脂肪组织弹性比值差异有统计学意义(P<0.05)(表 1)。

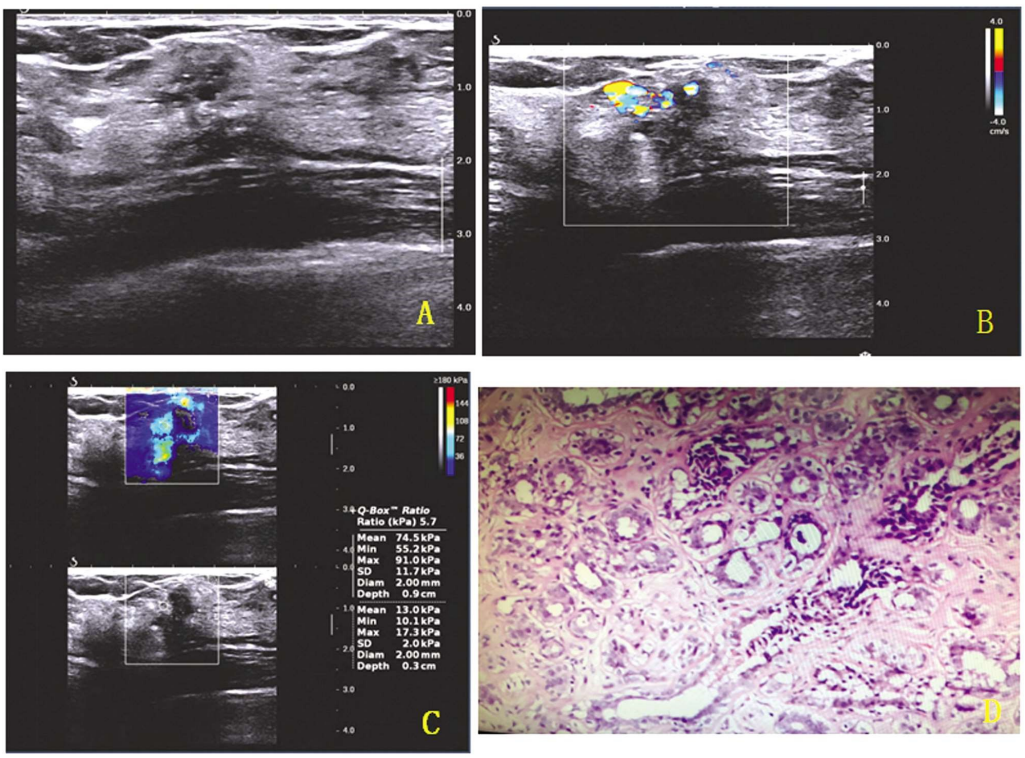

图 1 导管内原位癌

Fig.1 Breast carcinoma in situ

Note: gray scale ultrasound shows an 0.8× 1.6 cm low echo tubercle, with unsharp boundary, irregular shape ade tiny strong echo inside(A); Color doppler shows punctate and strip-shaped blood flow signals in lesions(B); The maximum, mean, minimum elasticity value and ratio (mass/fat) were 91.0 kpa,74.5 kpa,55.2 kpa,5.7(C); The pathological shows(HE× 100, D)

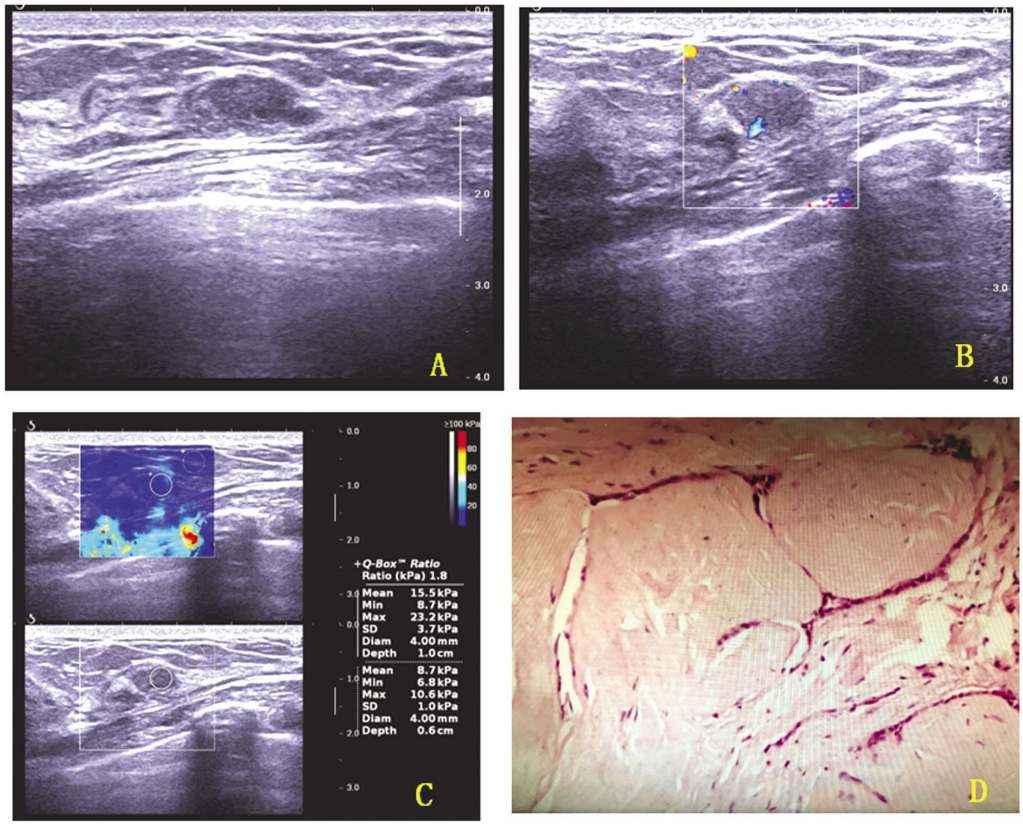

图 2 乳腺纤维腺瘤

Fig.2 Breast fibroadenoma

Note: Gray scale ultrasound shows an 1.1× 0.6 cm low echo tubercle, with clear boundary, regular shape(A); Color doppler shows punctate and strip-shaped blood flow signals in lesions(B); The maximum, mean, minimum elasticity value and ratio (mass/fat) were 23.2 kpa, 15.5 kpa, 8.7 kpa, 1.8(C)The pathological shows(HE× 100, D)

表 1 两组病变弹性模量值比较

Table 1 Comparison of SWE quantitative elastography between two groups

	Elasticity value (kpa)			Ratio (mass/fat)
	Max	Mean	Min	
Breast carcinoma in situ	86.6± 26.7	56.6± 21.4	31.3± 15.7	6.7± 1.8
Benign	40.2± 16.0	29.6± 12.7	17.6± 7.2	2.9± 1.3
P	<0.05	<0.05	<0.05	<0.05

2.4 诊断效能

以病理结果为金标准，常规超声正确诊断原位癌 17 例，正确诊断良性病变 32 例；SWE 正确诊断原位癌 24 例，正确诊断良性病变 40 例。SWE 的诊断敏感度、特异度和准确度、阳性预测值、阴性预测值分别为：92.31%、88.89%、90.14%、82.76%、95.23%，与常规超声相比，两种检查方法间差异有统计学意义（*P*<0.05)(表 2)。弹性模量最大值、平均值、最小值及与脂肪组织弹性比值评价乳腺原位癌的 ROC 曲线下面积分别为 0.944、0.876、0.818、0.956。ROC 曲线示当弹性模量最大值、平均值、最小值及与脂肪组织弹性比值分别以 57.75 kpa、38.40 kpa、19.65 kpa、3.75 为临界诊断值时，具有最佳诊断效能。(图 3)。

表 2 常规超声与 SWE 敏感度、特异度、准确度、阳性预测值和阴性预测值比较

Table 2 Comparison of sensitivity, specificity, accuracy, positive predictive value and negative predictive value between two groups

	Sensitivity(%)	Specificity(%)	Accuracy(%)	Positive predictive value(%)	Negative predictive value(%)
Conventional ultrasound	65.38	71.11	69.01	56.67	78.05
SWE	92.31	88.89	90.14	82.76	95.23
P	<0.05	<0.05	<0.05	<0.05	<0.05

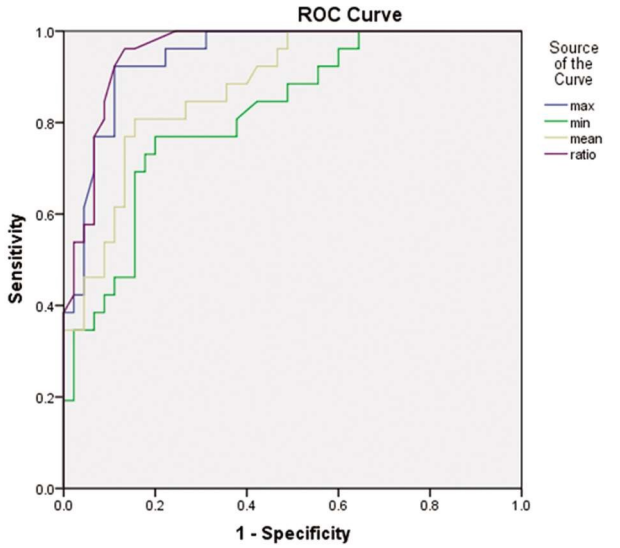

图 3 弹性模量最大值、平均值、最小值及与脂肪组织弹性比值评价乳腺原位癌的 ROC 曲线

Fig.3 The ROC curve of breast carcinoma in situ was evaluated by the elastic modulus maximum, mean, minimum and the elastic ratio of adipose tissue

3 讨论

" 弹性成像 " 最早由 Ophir 在 1991 年提出，目前已用于许多疾病中 [8-11]，对乳腺良恶性病变的鉴别诊断具有重要价值。SWE 技术是弹性成像的最新技术，通过测量组织的密度，获得弹性模量值，为定量方法。研究表明不同组织的硬度不同，恶性肿瘤的硬度明显高于良性病灶[12-14]。

研究表明乳腺不同组织弹性系数不同，恶性病变硬度较大，良性病变硬度较小，乳腺病灶弹性与脂肪组织弹性比值也有助于鉴别乳腺良恶性病灶[15,16]。本研究中，乳腺原位癌的弹性最大值、平均值、最小值及与脂肪组织弹性比值分别为 86.6± 26.7 kpa、56.6± 21.4 kpa、31.3± 15.7 kpa、6.7± 1.8，与文献报道基本一致[17,18]，均大于乳腺良性病变，提示 SWE 对鉴别乳腺原位癌和良性病变有诊断价值。本研究中，有 2 个病灶术前 SWE 分别诊断为导管内乳头状瘤和纤维腺瘤，术后病理结果显示为导管内原位癌，有 5 个病灶术前 SWE 诊断为乳腺原位癌，术后病理结果示 2 个为导管内乳头状瘤、2 个为腺病并纤维腺瘤、1 个为纤维腺瘤。对比上述假阴性病例和假阳性病例的病理资料，我们发现误诊为纤维腺瘤的假阴性病例病灶中可见大片坏死组织，假阳性病灶中病理诊断为腺病并纤维腺瘤及纤维腺瘤的病灶中纤维组织明显增生，部分病灶中纤维组织合并玻璃样变性。既往国外研究中也提到，由于纤维化比例的增加和坏死组织比例的降低，肿瘤的生长趋向于变硬[18,19]。另有研究表明导管内乳头状瘤弹性值离散程度较大，易误诊为乳腺癌[20]。

尽早诊断乳腺原位癌不但对临床制定诊治疗计划有很大参考价值，对患者的身心健康也有十分重要的帮助。常规超声检查主要根据病灶的形态、边界、大小、有无微小钙化、血流情况等征像来诊断乳腺原位癌，但由于癌细胞未突破基底膜，其超声声像图特点往往不典型，难以与乳腺良性病变鉴别。研究表明，常规超声对原位癌的敏感度大约为 50%-70%[21,22]，在本研究中为 65.38%。SWE 诊断乳腺原位癌敏感度、特异度、准确度、阳性预测值、阴性预测值分别为 92.31%、88.89%、90.14%、82.76%、95.23%，均显著高于常规超声，说明剪切波超声弹性成像对乳腺癌的诊断价值明显优于常规超声。既往研究将乳腺原位癌常规超声声像图特征归纳为 4 型，其对肿块型及微小钙化型诊断效能较高，但对片状低回声区型及导管型诊断效能较低，敏感度仅约 25%左右[21,22]。本研究中，常规超声对这两型病灶诊断敏感度分别为 33.33%(2/6)和 50.00%(3/6)，SWE 对这两型病灶诊断敏感度分别为 100.00%(6/6) 和 83.33%(5/6)，说明 SWE 对于常规超声难以诊断的片状低回声区型及导管型也有较好的诊断效能。但由于乳腺原位癌相对其他类型乳腺疾病而言发病率较低，因此本研究中样本数量较小，片状低回声区型及导管型仅各 6 例，诊断敏感性仅具有参考意义。

本研究通过分别以弹性模量最大值、平均值、最小值及与脂肪组织弹性比值构建 ROC 曲线，曲线下面积分别为 0.944、0.876、0.818、0.956，说明以弹性模量最大值、平均值、最小值及与脂肪组织弹性比值诊断乳腺原位癌的诊断效能好，其中弹性模量最大值及与脂肪组织弹性比值诊断效能较弹性模量最小值和平均值好。目前，并无关于乳腺良性病变与原位癌的弹性模量值诊断标准，当弹性模量最大值、平均值、最小值及与脂肪组织弹性比值分别以 57.75 kpa、38.40 kpa、19.65 kpa、3.75 为临界诊断值时，具有最佳诊断效能。

综上所述，乳腺原位癌病灶的弹性模量值高于高于良性病灶，SWE 对乳腺原位癌对早期发现乳腺原位癌具有重要价值。

参 考 文 献(References)

[1] 谷元廷, 额尔敦, 王钟富, 等. 乳腺原位癌的手术治疗和预后[J].中国肿瘤临床, 2001, 28(9): 677-678

[2] 张丹华, 唐中华, 周琴, 等. 乳腺癌患者术后生命质量及影响因素的调查研究[J].现代生物医学进展, 2014, 14(14): 2686-2689

[3] Han MS, Khan SA. Clinical Trials for Ductal Carcinoma In Situ of the Breast [J]. Journal of Mammary Gland Biology and Neoplasia, 2018, 23(4): 293-301

[4] Yao JJ, Zhan WW, Chen M, et al. Sonographic Features of Ductal Carcinoma In Situ of the Breast With Microinvasion: Correlation With Clinicopathologic Findings and Biomarkers [J]. J Ultrasound Med, 2015, 34(10): 1761-1768

[5] 喻灿球, 唐中华, 周恩相, 等. 双模式超声光散射乳腺成像系统在乳腺疾病良恶性鉴别中的临床应用价值 [J]. 中国现代医学杂志, 2013, 23(22): 74-77

[6] Bo EL, Jin C, Eun-Suk C, et al. Role of shear-wave elastography in complex cystic and solid breast lesions in comparison with conventional ultrasound [J]. European Journal of Radiology, 2015, 84: 1236-1241

[7] Kang HJ, Kim JY, Lee NK, et al. Three-dimensional versus two-dimensional shear-wave elastography: Associations of mean elasticity values with prognostic factors and tumor subtypes of breast cancer[J]. Clin Imaging, 2017, 48: 79-85

[8] 王志远, 周启昌. 乳腺恶性肿瘤诊断及疗效监测的超声研究新进展[J]. 临床超声医学杂志, 2014, 16(03): 185-187

[9] 郑立春, 欧阳向柳, 刘桂超, 等. SWE 与 18F-FDGPET/CT 显像诊断甲状腺微小癌的对比 [J]. 中国医学影像技术, 2017, 33(06): 868-871

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[15] Hadaegh F, Shafiee G, Hatami M, et al. Systolic and diastolic blood pressure, mean arterial pressure and pulse pressure for prediction of cardiovascular events and mortality in a Middle Eastern population [J]. Blood Press, 2012, 21(1): 12-18

[16] 高明喜, 廖敏蕾, 温沁竹. 循环 miRNA-29a-3P 水平变化与高血压患者左室肥厚的关系分析 [J]. 临床和实验医学杂志, 2018, 17(9): 925-928

[17] Sethna CB, Leisman DE. Left Ventricular Hypertrophy in Children with Hypertension: in Search of a Definition [J]. Curr Hypertens Rep, 2016, 18(8): 65

[18] Taher ZA, Khayyat WW, Balubaid MM, et al. The effect of blood pressure variability on the prognosis of hypertensive patients[J]. Anatol J Cardiol, 2019, 22(3): 112-116

[19] Feng L, Jehan I, de Silva HA, et al. Prevalence and correlates of cardiometabolic multimorbidity among hypertensive individuals: a cross-sectional study in rural South Asia-Bangladesh, Pakistan and Sri Lanka[J]. BMJ Open, 2019, 9(9): e030584

[20] Johnson K, Oparil S, Davis BR, et al. Prevention of Heart Failure in Hypertension-Disentangling the Role of Evolving Left VentricularHypertrophy and Blood Pressure Lowering: The ALLHAT Study [J]. J Am Heart Assoc, 2019, 8(8): e011961

[21] Singh DK, Peter CT. Use of the Surface Electrocardiogram to Define the Nature of Challenging Arrhythmias [J]. Card Electrophysiol Clin, 2016, 8(1): 1-24

[22] Ferreira JP, Rossignol P, Demissei B, et al. Coronary angiography in worsening heart failure: determinants, findings and prognostic implications[J]. Heart, 2018, 104(7): 606-613

[23] Shaw CJ, Rivens I, Civale J, et al. Maternal and fetal cardiometabolic recovery following ultrasound-guided high-intensity focused ultrasound placental vascular occlusion [J]. J R Soc Interface, 2019, 16 (154): 20190013

[24] Nuffer Z, Rupasov A, Bhatt S. Doppler Ultrasound Evaluation of Circulatory Support Devices[J]. Ultrasound Q, 2017, 33(3): 193-200

[25] Terslev L, Diamantopoulos AP, Døhn UM, et al. Settings and artefacts relevant for Doppler ultrasound in large vessel vasculitis [J]. Arthritis Res Ther, 2017, 19(1): 167

[26] 冯冰. 心脏彩色多普勒超声在高血压左心室肥大伴左心衰竭诊断中的应用价值[J].新乡医学院学报, 2018, 35(11): 985-987

[27] Yücel M, Alp H, Yorulmaz A, et al. Prediction of the development of pulmonary arterial hypertension with Tei Index in congenital heart diseases with left-to-right shunt[J]. Turk Kardiyol Dern Ars, 2019, 47 (6): 466-475

[28] Liu D, Hu K, Herrmann S, et al. Value of tissue Doppler-derived Tei index and two-dimensional speckle tracking imaging derived longitudinal strain on predicting outcome of patients with light-chain cardiac amyloidosis[J]. Int J Cardiovasc Imaging, 2017, 33(6): 837-845

[29] Kattel S, Memon S, Saito K, et al. An effect of left ventricular hypertrophy on mild-to-moderate left ventricular diastolic dysfunction [J]. Hellenic J Cardiol, 2016, 57(2): 92-98

[30] Ponikowski P, Voors AA, Anker SD, et al. 2016 ESC guidelines for the diagnosis and treatment of acute and chronic heart failure: the Task Force for the diagnosis and treatment of acute and chronic heart failure of the European Society of Cardiology (ESC) developed with the special contribution of the Heart Failure Association (HFA) of the ESC[J]. Eur Heart J, 2016, 37(27): 2129-2200

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[10] Endo M, Soroida Y, Sato M, et al. Ultrasound evaluation of liver stiffness: accuracy of ultrasound imaging for the prediction of liver cirrhosis as evaluated using a liver stiffness measurement [J]. J Med Dent Sci, 2017, 64(2-3): 27-34

[11] Di Leo N, Venturini L, de Soccio V, et al. Multiparametric ultrasound evaluation with CEUS and shear wave elastography for carotid plaque risk stratification[J]. J Ultrasound, 2018, 21(4): 293-300

[12] Acharya UR, Ng WL, Rahmat K, et al. Shear wave elastography for characterization of breast lesions: Shearlet transform and local binary pattern histogram techniques[J]. Comput Biol Med, 2017, 91: 13-20

[13] Yang J, Song Y, Wei W, et al. Comparison of the effectiveness of ultrasound elastography with that of conventional ultrasound for differential diagnosis of thyroid lesions with suspicious ultrasound features [J]. Oncol Lett, 2017, 14(3): 3515-3521

[14] Choi HJ, Ko KH, Jung HK. Shear wave elastography for surgically verified breast papillary lesions: is it effective for differentiation between benign and malignant lesions?[J]. J Ultrasound Med, 2017, 36 (10): 2007-2014

[15] Chamming's F1, Latorre-Ossa H, Le Frère-Belda MA, et al. Shear wave elastography of tumour growth in a human breast cancer model with pathological correlation[J]. Eur Radiol, 2013, 23(8): 2079-2086

[16] Xi Lin, Cai Chang, Changjun Wu, et al. Confirmed value of shear wave elastography for ultrasound characterization of breast masses using a conservative approach in Chinese women: a large-size prospective multicenter trial[J]. Cancer Manag Res, 2018, 10: 4447-4458

[17] Jae SB, Jung MC, Su HL, et al. Prediction of invasive breast cancer using shear-wave elastography in patients with biopsy-confirmed ductal carcinoma in situ[J]. Eur Radiol, 2017, 27: 7-15

[18] Çebi OD, Korkmazer B, Kılıç F, et al. Use of shear wave elastography to differentiate benign and malignant breast lesions [J]. Diagn Interv Radiol, 2014, 20(3): 239-244

[19] Shi XQ, Li J, Qian L, et al. Correlation between elastic parameters and collagen fibre features in breast lesions [J]. Clin Radiol, 2018, 73 (6): 595-595

[20] 李晔, 王知力. 乳腺导管内乳头状瘤: SWE 评价乳腺病变良恶性误诊的潜在原因 [J]. 中国医学影像学杂志, 2015, 23 (12): 896-899+904

[21] 王涌, 秦茜淼, 杨宝年, 等. 探讨超声 BI-RADS 分类误诊乳腺原位癌的原因[J]. 中国医学影像技术, 2012, 28(11): 2019-2022

[22] Watanabe T, Yamaguchi T, Tsunoda H, et al. Ultrasound Image Classification of Ductal Carcinoma In Situ (DCIS) of the Breast: Analysis of 705 DCIS Lesions[J]. Ultrasound Med Biol, 2017, 43(5): 918-925