

doi: 10.13241/j.cnki.pmb.2020.23.015

超声对原发性胆汁性肝硬化合并自身免疫性甲状腺炎的诊断价值和相关性分析*

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摘要 目的:探讨超声对原发性胆汁性肝硬化合并自身免疫性甲状腺炎的诊断价值以及相关性。**方法:**选取 2017 年 1 月~2019 年 12 月我院收治的 90 例原发性胆汁性肝硬化合并自身免疫性甲状腺炎患者为研究组, 根据患者病情的不同将其分为早期组($n=48$)和晚期组($n=42$)。另选取 50 例健康志愿者为对照组, 对所有患者进行超声诊断, 比较两组患者的门静脉血流参数、肝动脉血流参数、肝中静脉血流参数以及脾静脉血流参数。**结果:**晚期组的门静脉主干内径(portal vein diameter, PVD)明显高于早期组和对照组($P<0.05$), 晚期组的平均流速(portal vein velocity, PVV)明显低于早期组和对照组($P<0.05$), 三组患者的门静脉血流量(perceptual video quality, PVQ)差异无统计学意义($P>0.05$)。晚期组的肝动脉内径(hepatic artery inner diameter, HAD)、阻力指数(resistance index, RI)、收缩期峰值流速(peak systolic velocity/end diastolic velocity, HAVmax)、血流量(blood flow, HAQ)均明显大于对照组($P<0.05$)。晚期组的肝中静脉内径(middle hepatic vein diameter, MHAD)、最高平均流速(maximum average flow rate, MHV Vm)、最大血流量(maximum blood flow, MHVQ)均较早期组和对照组减少($P<0.05$)。晚期组的脾静脉内径(splenic vein diameter, SVD)明显高于对照组和早期组($P<0.05$), 晚期组的脾静脉平均流速(splenic vein mean flow rate, SVm)、脾静脉血流量(splenicveinflow, SVF)与对照组、早期组相比差异无统计学意义($P>0.05$); 经过相关性分析肝脏超声指标与甲状腺超声指标均呈现正相关关系($P<0.05$)。**结论:**超声在原发性胆汁性肝硬化合并自身免疫性甲状腺炎患者中应用具有很高的价值, 通过对原发性胆汁性肝硬化超声指标推测自身免疫性甲状腺炎病情程度, 患者的超声图像具有一定的特征性, 可以用以患者的诊断和病因分析, 值得在临床中应用推广。

关键词:超声; 原发性胆汁性肝硬化; 自身免疫性甲状腺炎; 相关性

中图分类号: R575.2; R445.1; R581.4 **文献标识码:** A **文章编号:** 1673-6273(2020)23-4468-05

The Value and Correlation of Ultrasonography in the Diagnosis of Primary Biliary Cirrhosis with Autoimmune Thyroiditis*

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ABSTRACT Objective: To explore the value and correlation of ultrasonography in the diagnosis of primary biliary cirrhosis with autoimmune thyroiditis. **Methods:** 90 patients with primary biliary cirrhosis and autoimmune thyroiditis admitted to our hospital from January 2017 to December 2019 were selected as the study group, which was divided into early group ($n = 48$) and late group ($n=42$) according to their different conditions. Another 50 healthy volunteers were selected as the control group. All patients were diagnosed by ultrasound. The parameters of portal vein blood flow, hepatic artery blood flow, middle hepatic vein blood flow and spleen vein blood flow were compared between the two groups. **Results:** The PVD of the late group was significantly higher than that of the early group and the control group ($P<0.05$), and the PVV of the late group was significantly lower than that of the early group and the control group ($P<0.05$). There was no significant difference in PVQ ($P>0.05$). The HAD, RI, HAVmax, and HAQ in the advanced group were significantly larger than those in the control group ($P<0.05$). The diameter of the MHAD, maximum mean flow velocity (MHV Vm), and blood flow (MHVQ) in the late group were all reduced compared with the early group and the control group ($P<0.05$). The SVD in the late group was significantly higher than that in the control group and the early group ($P<0.05$). The SVm and SVF in the late group were different from those in the control group and the early group. No statistical significance ($P>0.05$); There was a positive correlation between liver ultrasound and thyroid ultrasound ($P<0.05$). **Conclusion:** The application of ultrasound in patients with primary biliary cirrhosis and autoimmune thyroiditis is of great value. The degree of autoimmune thyroiditis is estimated by the ultrasound indicators of primary biliary cirrhosis. Characteristics, which can be used for patient diagnosis and etiology analysis, which is worthy of application and promotion in clinical.

* 基金项目:北京市自然科学基金重点项目(7121012)

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(收稿日期:2020-03-23 接受日期:2020-04-17)

Key words: Ultrasound; Primary biliary cirrhosis; Autoimmune thyroiditis; Correlation

Chinese Library Classification(CLC): R575.2; R445.1; R581.4 **Document code:** A

Article ID:1673-6273(2020)23-4468-05

前言

原发性胆汁性肝硬化是一种较为常见的临床疾病,是自身免疫损伤介导的一种成人慢性胆汁淤积性肝病,该疾病的病程呈现出进行性,不同患者之间的病情进展呈现出巨大的差异,病程随着病情的发生可能出现比较严重的并发症及合并症^[1,2]。该疾病在女性患者中较为常见,而且其发病的高峰年龄在40~60岁,当前临床上对该疾病的发病机制尚不明确,大部分学者认为该疾病可能与遗传、环境以及感染等诸多因素有关^[3,4]。自身免疫性甲状腺炎是机体对于自身组织蛋白失去耐受进而产生自身抗体,对自身组织产生一定的攻击^[5,6]。原发性胆汁性肝硬化合并自身免疫性甲状腺炎将会进一步加重患者的病情,因此需要尽早对其进行诊断,采取有效的措施加以治疗^[7,8]。随着临床实践需要寻找较为简单可行的方法或简单快速的方法应用于早期评价原发性胆汁性肝硬化,跟踪其病情变化,并预测合并自身免疫性甲状腺炎变化进展程度,应用超声检查了解自身免疫性甲状腺炎与原发性胆汁性肝硬化之间是否具有相关性。本研究旨在探讨超声在原发性胆汁性肝硬化合并自身免疫性甲状腺炎患者中的应用价值。

1 资料与方法

1.1 一般资料

选取2017年1月~2019年12月我院收治的90例原发性胆汁性肝硬化合并自身免疫性甲状腺炎患者为研究组,其中男性患者25例,女性患者65例,年龄38~62岁,平均年龄(48.63±5.21)岁。根据患者病情的不同将其分为早期组(n=48)和晚期组(n=42)。纳入标准:所有患者均在接受超声检查之前确诊为原发性胆汁性肝硬化合并自身免疫性甲状腺炎,并且对本次研究知情,自愿参与,本研究经我院医学伦理委员会同意和批准。排除标准:酒精性肝硬化、代谢性肝硬化患者;合并其他严重脏器功能障碍的患者。另选取50例健康志愿者为对照

组,其中男16例,女34例;年龄34~57岁,平均年龄(47.12±5.33)岁。两组患者的一般资料相比差异无统计学意义($P>0.05$)。

1.2 研究方法

所有患者均采用GE LOGIQ E9型彩色多普勒超声仪进行诊断,将探头的频率设定为3.5 MHz,由经验丰富的临床影像学医师对所有的患者进行检查,首先对患者的胆、肝脏、脾脏以及胰腺等部位进行常规检查,密切的观察患者的肝实质回声、肝脏大小、肝内胆管系统等变化情况,综合观察各种影像学特征,对患者的病情进行分析比较。由经验丰富的2名影像学医师采用双盲法对患者的诊断结果进行分析,如果存在分歧双方进行讨论,最终确定患者的诊断结果。

1.3 观察指标

三组门静脉血流参数(PVD、PVV、PVQ)比较;三组患者肝动脉血流参数(HAD、RI、HAVmax、HAQ)比较;三组患者的肝中静脉血流参数(MHAD、MHV Vm、MHVQ)比较;三组患者的脾静脉血流参数(SVD、SVm、SVF)比较。超声检查晚期患者甲状腺炎超声参数:甲状腺上动脉(STA)具体内径值、收缩期峰值流速(PV)及阻力指数(RI),并且分析与肝脏超声指标相关性。

1.4 统计学分析

应用SPSS19.0统计软件进行,计量资料以均值±标准差($\bar{x} \pm s$)表示,组间比较采用独立样本F检验,两两比较采用LSD-t检验;计数资料用百分比(%)表示,采用卡方检验(χ^2)。采用Pearson分析相关性分析。取 $P<0.05$ 时差异具有统计学意义。

2 结果

2.1 三组患者门静脉血流参数比较

晚期组的PVD明显高于早期组和对照组($P<0.05$),晚期组的PVV明显低于早期组和对照组($P<0.05$),三组患者的PVQ差异无统计学意义($P>0.05$),具体情况如下表1所示。

表1 三组患者门静脉血流参数比较

Table 1 Comparison of portal vein blood flow parameters in the three groups

Groups	PVD(mm)	PVV(cm/s)	PVQ(mL/min)
Control group	11.23±0.12	21.36±3.07	1256.37±125.67
Early group	12.27±0.06*	16.68±2.23*	1189.42±133.47
Late group	14.31±0.77*	12.27±1.73*	1217.15±128.97

Note: Compared with the control group, * $P<0.05$.

2.2 三组患者肝动脉血流参数比较

晚期组的HAD、RI、HAVmax、HAQ均明显大于早期组和对照组($P<0.05$),具体情况如下表2所示。

2.3 三组患者的肝中静脉血流参数

晚期组的MHAD、MHV Vm、MHVQ均较早期组和对照组减少($P<0.05$),具体情况如下表3所示。

2.4 三组患者的脾静脉血流参数比较

晚期组的SVD明显高于对照组和早期组($P<0.05$),晚期组的SVm、SVF与对照组、早期组相比差异无统计学意义($P>0.05$),具体情况如下表4所示。

2.5 晚期组患者自身免疫性甲状腺炎超声指标与原发性胆汁性肝硬化的肝脏超声相关性

经过超声检查甲状腺 STA 内径平均(0.19±0.04)cm、PSV 肝脏超声指标与甲状腺超声指标均呈现正相关关系 ($P<0.05$),见表 5。

表 2 三组患者肝动脉血流参数比较

Table 2 Comparison of hepatic artery blood flow parameters in the three groups

Groups	HAD(mm)	RI	HAVmax(cm/s)	HAQ(mL/min)
Control group	2.7±1.2	0.56±0.07	52.3±11.5	192.4±115.7
Early group	3.4±1.3*	0.64±0.08*	57.8±11.7*	293.7±122.4*
Late group	4.6±1.3*	0.73±0.08*	68.9±10.7*	337.6±128.3*

表 3 三组患者的肝中静脉血流参数

Table 3 blood flow parameters of middle hepatic vein in three groups

Groups	MHAD(mm)	MHVVm(cm/s)	MHVQ(mL/min)
Control group	6.71±2.13	26.4±6.3	578±216
Early group	6.24±1.93*	25.6±7.2*	523±237*
Late group	3.82±1.84*	19.1±8.8*	446±243*

Note: Compare with the control group, * $P<0.05$.

表 4 三组患者的脾静脉血流参数比较

Table 4 Comparison of blood flow parameters of splenic vein in three groups

Groups	SVD(mm)	SVm(cm/s)	SVF(mL/min)
Control group	5.6±0.14	13.6±2.3	224±56.4
Early group	6.3±0.12*	14.5±2.2	234±55.4
Late group	9.3±0.16*	13.8±2.5	235±65.1

Note: Compare with the control group, * $P<0.05$.

表 5 晚期组自身免疫性甲状腺炎超声指标与原发性胆汁性肝硬化的肝脏超声相关性(r/P)

Table 5 Correlation between ultrasound indicators of autoimmune thyroiditis in advanced group and liver ultrasound of primary biliary cirrhosis (r/P)

Liver ultrasound index	STA	PSV	RI
PVD(mm)	0.65/<0.05	0.98/<0.05	0.45/<0.05
PVV(cm/s)	0.32/<0.05	0.40/<0.05	0.36/<0.05
PVQ(mL/min)	0.54/<0.05	1.23/<0.05	1.02/<0.05
HAD(mm)	3.21/<0.05	1.26/<0.05	2.31/<0.05
RI	2.33/<0.05	3.44/<0.05	2.41/<0.05
HAVmax(cm/s)	1.67/<0.05	2.41/<0.05	2.22/<0.05
MHAD(mm)	1.50/<0.05	2.41/<0.05	3.01/<0.05
MHVVm(cm/s)	1.45/<0.05	2.31/<0.05	1.62/<0.05
MHVQ(mL/min)	2.32/<0.05	2.34/<0.05	2.03/<0.05
SVD(mm)	2.54/<0.05	1.80/<0.05	1.42/<0.05
SVm(cm/s)	3.01/<0.05	2.00/<0.05	1.62/<0.05
SVF(mL/min)	2.34/<0.05	3.13/<0.05	1.33/<0.05

3 讨论

原发性胆汁性肝硬化是一种较为常见的免疫介导的慢性胆汁淤积性肝病,属于自身免疫性肝病的一种,其主要的临床特征表现为血清特异性抗线粒体抗体升高、慢性阻塞性黄疸^[9,10]。

该类疾病患者大多为女性,临床症状主要表现为皮肤瘙痒、乏力等,其血清 AMAs 阳性为其诊断的重要依据^[11,12]。该类疾病主要发生在中年女性患者群体中,在儿童中一般比较少见^[13]。原发性胆汁性肝硬化可以合并干燥综合征、自身免疫性甲状腺炎、胰腺炎、系统性红斑狼疮、类风湿性关节炎等疾病。而原发

性胆汁性肝硬化合并自身免疫性甲状腺发病率相对较低^[14,15],因此一般在临床中不是十分常见,再加之该疾病的临床表现缺乏特异性,有的患者甚至没有任何症状,因此对其进行早期诊断存在较大的困难,临床极易发生误诊或者漏诊^[16,17]。此外,该病属于一种进行性疾病,因此可能会对患者造成较大的伤害,甚至威胁患者的生命安全。因此需要寻找有效的方法对患者进行及时明确诊断,及时为患者的临床治疗提供客观的参考依据,以改善预后,促进患者的康复^[18]。

原发性胆汁性肝硬化合并自身免疫性甲状腺炎在病理上可以分为四期,在不同的病理分期患者其肝硬化存在不同的特点,而且随着疾病的发展,肝脏血流动力学也会发生明显的变化,在病变早期,患者的门脉主干不会出现明显的增宽,而且内部的血流速度较正常情况略微降低,其降低程度不是十分明显^[19,20]。随着患者病情的发展加重,患者的门静脉阻力增高,使患者进一步形成肝内阻塞性充血,在其疾病的晚期阶段,患者的门脉主干将出现明显的增宽,肝静脉甚至出现闭塞^[21,22]。此阶段通过对患者采用超声检查可以清晰的显示患者的门脉主干以及肝静脉等的肝内血流动力学变化,此时若对其血流速度以及阻力指数进行测量,可直观的将患者的血流方向清晰显示出来,进而为临床医师的诊断提供可靠的参考依据^[23]。根据超声图像显示,在不同的病理分期,患者的肝脏形态大小、实质回声、被膜、血流情况以及胆管走行等情况存在较大的差异,而这种差异恰恰与患者自身疾病的严重程度存在相关性^[24]。随着患者病变程度的不断进展,其肝脏实质受损程度将会越来越严重,而且其超声声像图也会出现越来越典型的表现^[25]。当前临床上在对原发性胆汁性肝硬化合并自身免疫性甲状腺炎患者进行诊断和评价时,主要采用的方法是免疫学检查以及肝脏组织病理学检查^[26],其中病理学检查是当前临床上诊断原发性胆汁性肝硬化合并自身免疫性甲状腺炎的金标准,但是由于该疾病在发病早期,其病灶主要呈现为局灶性,因此对其进行活检时可能出现遗漏^[27,28]。并且值得注意的是,活检是一种有创检查,存在一定的风险性,可能会对患者造成较大的伤害。而超声检查则不同,超声可以重复多次的对患者进行检查,动态观察患者的病情变化,在患者患病早期就对其进行确诊,进而最早的采取有效的措施对其加以干预。根据研究结果显示,晚期组与早期组、对照组的各参数比较差异显著,由此可以看出,超声诊断原发性胆汁性肝硬化合并自身免疫性甲状腺炎患者具有很高的价值。当前临床上治疗该疾病的重点在于改善患者的肝功能指标,延缓其肝脏组织学特征,促进患者生命质量的提升,延长生存期^[29]。自身免疫性肝病可能合并有多重其他自身免疫性疾病,因此需要考虑对患者进行尽早确诊,然后对其进行综合全面的诊治,延缓病情的发展,提高临床治疗效果,并改善预后^[30]。

综上所述,超声在原发性胆汁性肝硬化合并自身免疫性甲状腺炎患者中应用具有很高的价值,患者的超声图像具有一定的特征性,与常规的诊断方法相比具有更高的敏感性和特异性,可以促进诊断准确率的提高,方便有效,因此值得在临床中应用推广。

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(上接第 4435 页)

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