

彩色多普勒超声诊断胎盘部位滋养细胞肿瘤的临床价值

徐 阳¹ 赵凡桂^{1△} 张 浩² 孙 莉¹ 孔凡斌¹ 任芸芸¹

(¹ 复旦大学附属妇产科医院超声科, ²病理科 上海 200011)

【摘要】目的 探讨经阴道彩色多普勒超声诊断胎盘部位滋养细胞肿瘤的临床价值。**方法** 回顾性分析 12 例经病理证实的胎盘部位滋养细胞肿瘤患者的临床特征和经阴道彩色多普勒超声图像特点。**结果** 常见临床症状为闭经后继发不规则阴道流血(8 例)、不规则阴道流血(4 例)。诊断距上次妊娠时间中位数为 8 个月。患者血清 β -hCG 水平中位数 132 IU/L(2.01~3098 IU/L)。根据病灶位置,胎盘部位滋养细胞肿瘤经阴道超声主要分为两种类型:第一种,4 例病灶主要位于宫腔内,表现为不均质实质占位,与周边肌层分界不清,彩色血流信号丰富 2 例,血流信号稀少 2 例;第二种,8 例病灶主要位于子宫肌层内,实性为主 2 例,蜂窝状 4 例和囊性为主 2 例,边界不清,彩色多普勒血流显像显示病灶内部或周边彩色血流信号丰富 7 例,血流信号稀少 1 例。10 例进行频谱多普勒测量者 RI 均值为 0.49(0.28~0.70)。**结论** 经阴道彩色多普勒超声检查结合临床病史有助于早期诊断胎盘部位滋养细胞肿瘤,有利于临床及时准确地制定治疗方案。

【关键词】 胎盘部位滋养细胞肿瘤; 彩色多普勒超声; 经阴道超声

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The clinical value of color Doppler ultrasonography in diagnosis of placental site trophoblastic tumor

XU Yang¹, ZHAO Fan-gui^{1△}, ZHANG Hao², SUN Li¹, KONG Fan-bin¹, REN Yun-yun¹

(¹ Department of Ultrasound, ² Department of Pathology, Obstetrics and Gynecology Hospital, Fudan University, Shanghai 200011, China)

【Abstract】 Objective To study the clinical value of transvaginal color Doppler ultrasonography in diagnosis of placental site trophoblastic tumor (PSTT). **Methods** The clinical features and findings on transvaginal sonography (TVS) of PSTT proved by operation and pathology were investigated retrospectively in 12 cases. **Results** The most frequent symptoms associated with PSTT were abnormal vaginal bleeding with varying periods of amenorrhea, presented in 8 cases, and abnormal vaginal bleeding, presented in 4 cases. The interval from antecedent pregnancy to diagnosis was 4~21 (median, 8) months. The serum level of beta-human chorionic gonadotropin (β -hCG) at the time of ultrasound examination was generally low, with a median of 132 IU/L (range, 2.01~3 098 IU/L). Sonographic presentation of PSTT was classified into two types according to the site of the lesions with poorly defined margins observed on TVS: Type I, heterogeneous solid mass with unclear border in the uterine cavity (4 cases), with minimal (2 cases) to a high degree (2 cases) of Doppler signals

△Corresponding author E-mail: corneazhao@163.com

from blood flow; type II, heterogeneous solid (2 cases), alveolate (4 cases) or cystic mass (2 cases) with unclear border in the myometrium, with minimal (1 case) to a high degree (7 cases) of Doppler signals from blood flow. Doppler waveform analysis of vessels within the PSTT of 10 cases typically demonstrated low impedance. The mean resistance index was 0.49 (range, 0.28–0.7). **Conclusions** Combined with clinical features, the findings described on sonographic examination could be helpful in early detection of PSTT and could contribute to making clinical decision timely and accurately.

【Key words】 placental site trophoblastic tumor; color Doppler ultrasonography; transvaginal sonography

胎盘部位滋养细胞肿瘤 (placental site trophoblastic tumor, PSTT) 是一种起源于胎盘种植部位的妊娠滋养细胞肿瘤 (gestational trophoblastic neoplasia, GTN), 主要由中间型滋养细胞组成。PSTT 绝大多数发生于育龄期妇女, 临床罕见, 占所有 GTN 的 1%~2%^[1]。因其临床表现为非特异性, 临床诊断 PSTT 比较困难, 而且 PSTT 的治疗以手术为主^[2], 与其他常见的 GTN (如绒毛膜癌和侵蚀性葡萄胎) 有很大差异, 因而 PSTT 的早期诊断对选择合理的治疗方法、改善患者预后具有十分重要的意义^[3]。本文旨在分析复旦大学附属妇产科医院 12 例经手术病理证实 PSTT 患者的临床特点、超声图像特征, 探讨经阴道彩色多普勒超声诊断 PSTT 的临床价值。

资料和方法

资料来源 2002 年 3 月至 2014 年 9 月期间在复旦大学附属妇产科医院手术且病理确诊为 PSTT 的 12 例患者。

仪器和方法 采用 GE (E8、Voluson 730 expert) 或 Philip (HD11_XE) 彩色多普勒超声诊断仪, 经阴道超声探头频率 5.0~9.0 MHz。对 12 例 PSTT 患者的临床特征和超声图像特点进行回顾性分析。临床数据为收集患者年龄、怀孕次数、生产次数、主要临床症状、上次妊娠的类型、诊断至上次妊娠的时间、超声检查时的血清 β -hCG 水平, 超声报告、胸部平片及病理报告。嘱患者排空膀胱后经阴道超声检查, 清晰显示二维超声图像, 描述宫腔或肌层内的囊性或实性病灶及其与周边组织的关系; 使用彩色多普勒血流显像检查病灶内及周边的血流信

号分布情况, 得出超声诊断。

结 果

一般情况及临床特征 本研究中患者年龄中位数为 26 岁 (22~41 岁), 怀孕次数中位数为 1.5 次 (1~7 次), 生产次数中位数为 1 次 (1~2 次), 诊断 PSTT 距上次妊娠时间为 4~21 月 (中位数 8 个月)。10 例 (10/12) 患者上次妊娠为足月妊娠, 1 例为人流术, 1 例为葡萄胎。最常见的临床症状是先闭经后继发不规则阴道流血 8 例 (8/12), 不规则阴道流血 4 例 (4/12)。

11 例患者血清 β -hCG 水平异常, 1 例为正常范围 (2.01 IU/L), 中位数水平为 132 IU/L (2.01~3098 IU/L)。患者中 9 例 (9/12) 均低于 1000 IU/L, 只有 2 例 (2/12) 患者血清 β -hCG 水平较高 (分别为 3 098 IU/L 和 2 926 IU/L, 前者疑有肺部转移)。5 例因诊刮或宫腔镜未诊断 PSTT 作了化疗, 但是 β -HCG 下降不明显或下降后未达到正常值; 7 例患者诊刮或宫腔镜后诊断, 术前未进行化疗。11 例患者切除患病子宫, 1 例患者宫腔镜切除病灶后血清 β -HCG 水平均降至正常。10 例胸片正常, 1 例可疑肺部转移病灶, 1 例肺部炎症; 病理报告均显示为子宫 PSTT。

超声表现 12 例患者的子宫病灶最大径线为 1.6~8.3 cm, 平均径线 3.95 cm。超声显示 4 例患者病灶主要位于宫腔内, 呈不均匀的中低回声, 与周边肌层分界不清, 3 例浸润子宫肌层深度达 1/2 及以上, 1 例浸润浅肌层, 2 例彩色血流信号丰富, 2 例血流信号稀少; 8 例病灶主要位于子宫肌层内, 病灶均紧贴子宫内膜或突向宫腔, 内部回声表现分为实质性为

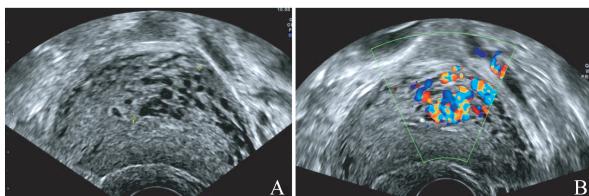
主(2例,图1)、蜂窝状(3例,图2)和囊性为主(2例,图3),较大者可以突向浆膜面,边界不清,彩色多普勒血流显像显示病灶内部或周边彩色血流信号丰富7例,血流信号稀少1例,肿瘤囊性部位一般为血流信号所填充。10例进行频谱多普勒测量者RI均值为0.49(0.28~0.7),7例血流信号丰富病例的RI均值为0.42(0.28~0.53),其中1例在术前结合临床病史超声考虑为PSTT。12例患者的临床特征和超声具体表现见表1。



A heterogeneous solid mass with unclear border located in the left-posterior wall of uterus, protruding to the serous surface.

图1 实性为主子宫PSTT的经阴道超声图像

Fig 1 Transvaginal ultrasound images of solid mass in the myometrium of PSTT.



A: Analveolate mass with unclear border located in the posterior wall of uterus; B: On color doppler image, the abundant doppler signals formed by blood flow were distributed throughout the tumor.

图2 蜂窝状子宫PSTT的经阴道超声图像

Fig 2 Transvaginal ultrasound images of alveolate mass in the myometrium of PSTT

讨 论

PSTT发病率极低,临床表现不典型,很难与绒毛膜癌、侵蚀性葡萄胎等其他GTN进行鉴别诊断^[4],在获得病理结果前易漏诊、误诊而采用错误的治疗方案。在本研究中患者均为育龄期妇女,大部分患者年龄小于35周岁。PSTT患者的孕次和产次没有特征性,可以继发于任何妊娠,继发于足月产



A cystic mass with unclear border located in the posterior wall of uterus.

图3 囊性为主子宫PSTT的经阴道超声图像

Fig 3 Transvaginal ultrasound images of cystic mass in the myometrium of PSTT

最为常见,这与其他GTN主要继发于葡萄胎是不同的^[4]。PSTT诊断距上次妊娠的时间间隔多变,可以是数月或数年,这与以往报道相似^[3,5]。在本研究中所有患者均在2年内诊断。本研究的12例患者中大部分表现为闭经后不规则阴道流血,而仅表现为继发性闭经少见,这与既往文献报道一致^[6-7]。因为PSTT由新生的中间型滋养细胞组成,只能分泌少量β-hCG,一般来说这些患者β-hCG水平较侵袭性葡萄胎或绒癌低,本研究中有9例患者血清β-hCG持续性小于1000IU/L,1例正常,2例较高。β-HCG正常或较高虽然少见,但是也有文献报道^[5,8],这往往增加了与侵袭性葡萄胎或绒癌鉴别诊断的难度。病灶位于宫腔内的通过诊刮或宫腔镜手术经病理诊断,若所取组织中没有中间型滋养细胞则需要多次诊刮。病灶主要位于肌层内者诊刮或宫腔镜取材受限,往往无法及时准确地诊断PSTT。本报道中有1次或多次诊刮未获病灶组织,改为宫腔镜检查才明确诊断;也有诊刮或宫腔镜检查未能明确诊断,被误诊为侵袭性葡萄胎或绒癌行多次甲氨蝶呤或者EMO-CO联合化疗,β-hCG下降不明显或者下降后仍然高于正常值者,结合超声检查才考虑PSTT^[7]。

虽然在本研究中只有1例在术前超声诊断为PSTT,其他11例均诊断为妊娠相关疾病,但是我们认为充分认识PSTT的超声特点再结合临床病史将有助于PSTT的诊断。我们根据病变的部位将PSTT主要分为两种类型:病灶主要位于宫腔内者和肌层内者。对于病灶位于宫腔内者,可见宫腔

表1 12例PSTT患者临床特点、超声特征及病理

Tab 1 Clinical characteristics, sonographic findings and pathologies in 12 cases of placental site trophoblastic tumor

Case	Age (years)	Grav- idity	Parity	Antecedent pregnancy	Interval time (months)	Initial clinical symptom	Serum β -hCG (IU/L)	Sonographic findings	Chest X-ray	Pathology
1	24	1	1	Term	10	Abnormal vaginal bleeding for 10 months	249.4	The solid mass with unclear border was located in the left-posterior wall of uterus, protruding to the serous surface and the Doppler signal from blood flow was abundant. PI 0.55, RI 0.43	Normal	PSTT with deep myometrium infiltration on the left wall of uterus
2	24	2	1	Term	7	Abnormal vaginal bleeding for 5 months after 2 months of amenorrhea,	125	The heterogeneous echogenic mass located in the uterine cavity with unclear boundary and showed minimal blood flow at the border of the lesion on color Doppler imaging. PI 1.49, RI 0.70	Normal	PSTT of the neoplasm in the uterine cavity
3	37	7	2	Term	6	Hypomenorrhea for 2 months after 4 months of amenorrhea	647.2	The alveolate mass with unclear border was at the fundus of the uterus and the Doppler signal from blood flow was abundant. PI 0.60, RI 0.42	Normal	PSTT with deep myometrium infiltration on the left uterine horn
4	41	3	2	Term	4	Abnormal vaginal bleeding for 4 months	118.32	The solid mass located at the bottom of uterine cavity and showed minimal blood flow at the border of the lesion on color Doppler imaging. PI 1.07, RI 0.65	Normal	PSTT with superficial myometrium infiltration in the uterus
5	35	3	2	Abortion	4-	Abnormal vaginal bleeding for 4 months, hemoptysis 1 day	3098	The cystic mass with unclear border was located in the anterior wall of uterus and the Doppler signal from blood flow was abundant. PI 0.32, RI 0.28	Left-middle pulmonary nodules (metastasis?)	PSTT with deep myometrium infiltration in the uterus
6	27	1	1	Term	12	Menorrhagia for 4 months after 8 months of amenorrhea	69.56	The solid mass with unclear border located in the uterine cavity and infiltrated into the posterior wall of uterus and the Doppler signal from blood flow was abundant. PI 0.60, RI 0.40	Normal	PSTT with 1/2 myometrium infiltration in the uterus
7	36	4	1	Hydatidiform mole	21	Abnormal vaginal bleeding for 4 months after 21 months of hydatidiform mole	681	The alveolate mass with unclear border was located in the right side wall of uterus, protruding from the serous surface and the Doppler signal from blood flow was abundant. PI 0.65, RI 0.47	Increased bronchovascular shadows	PSTT with deep myometrium infiltration in the uterus
8	25	1	1	Term	9	Abnormal vaginal bleeding for 9 months	2	The alveolate mass with unclear border was located in the posterior wall of uterus and the Doppler signal from blood flow was abundant. PI 0.87, RI 0.53	Normal	PSTT with 1/2 myometrium infiltration at the left fundus of the uterus
9	22	1	1	Term	15	Abnormal vaginal bleeding for 3 months after 12 months of amenorrhea	2926	The solid mass with unclear border was located at the posterior fundus of uterus, protruding into the uterine cavity with minimal color Doppler signal of blood flow, PI 0.97, RI 0.65	Normal	PSTT located at the fundus of uterus protruding into the uterine cavity
10	27	2	1	Term	5	Abnormal vaginal bleeding with bellyache for 2 months after 3 months of amenorrhea and abnormal serum hCG for 1 month	21	The solid mass located at the left bottom of uterine cavity, with unclear boundary to posterior wall and showed abundant blood flow within the lesion on color Doppler imaging. PI 0.61, RI 0.41	Normal	PSTT located at the left fundus of uterus
11	29	1	1	Term	10	Abnormal vaginal bleeding for 6 months after 4 months of amenorrhea	147	The alveolate mass with unclear border was located in the posterior wall of uterus and the Doppler signal from blood flow was abundant.	Normal	PSTT with deep myometrium infiltration on posterior wall of the uterus
12	28	1	1	Term	6	Abnormal vaginal bleeding for 6 months	80	The cystic mass with unclear border was located in the anterior wall and the fundus of uterus and the Doppler signal from blood flow was abundant	Normal	PSTT with deep myometrium infiltration, protruding to the serous surface of the uterus

内不均匀回声实质占位,边界不清,与周边肌层分界不清,浸润子宫肌层深度达1/2及以上,彩色血流信号丰富或稀少。由于其位于宫腔内,可以通过诊刮或宫腔镜检查进行病理确诊,而使误诊、漏诊率降低。需要进行鉴别诊断的宫腔占位包括宫腔息肉、黏膜下肌瘤、子宫内膜病变,宫腔妊娠物残留及其他妊娠滋养细胞疾病。宫腔息肉主要表现为边界清晰的中高回声区;黏膜下肌瘤呈边界清晰的低回声区;子宫内膜病变边界可以不清,内部回声不均,但是这3种病变患者 β -hCG均为阴性,较易排除。而宫腔妊娠物残留者血清 β -hCG水平较低,有时难以与PSTT相鉴别,但是一般情况下其与子宫肌层分界尚清或者浸润肌层较浅^[9]。其他位于宫腔内妊娠滋养细胞疾病的回声一般呈囊性,而且 β -hCG水平较高。以上疾病均可以通过诊刮或宫腔镜检查后的病理结果进行鉴别诊断。

病灶主要位于子宫肌层的PSTT由于术前难以取得病灶组织而无法明确诊断,若结合临床病史、血清 β -HCG水平和超声检查,基本可以排除非妊娠相关的子宫肌层占位;而与绒毛膜癌、侵蚀性葡萄胎则较难进行鉴别诊断。当肌层内病灶以实性为主,血流信号较少合并低水平的血清 β -HCG时,超声可以诊断PSTT;若肌层内为蜂窝状、囊性病灶合并丰富的血流信号,超声则无法与其他GTN鉴别诊断^[10],需要结合病史进行鉴别诊断。PSTT一般有较低水平的血清 β -HCG,化疗后血清 β -HCG水平下降不明显或下降后无法达到正常值,同时超声随访肌层病灶不缩小;而侵蚀性葡萄胎和绒癌则相反^[11]。另外本研究中10例PSTT患者病灶的血流阻力指数较低,其中血流信号丰富者RI值更低,这与其他GTN没有区别^[12]。

综上所述,PSTT主要继发于足月产,一般距上次妊娠时间2年内,大部分患者表现为闭经后不规则阴道流血,血清 β -HCG水平较低。我们根据病变的部位将PSTT主要分为两大类:病灶主要位于宫腔的PSTT和位于子宫肌层内的PSTT。前者超声发现宫腔占位,且病变浸润子宫肌层达1/2及以上,血流信号可丰富或稀少,诊刮或宫腔镜检查可以明确诊断;而病灶主要位于子宫肌层内的PSTT分为实性为主、蜂窝状和囊性为主3种,实性为主占位较有特征,后两者较难与其他GTN鉴别诊断,均需要结合临床特点。因此经阴道彩色多普勒超声检查结

合临床病史有助于早期诊断PSTT,有利于临床及时正确地制定治疗方案。

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