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妊娠中晚期胎儿轻度侧脑室增宽的超声诊断

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摘要 目的:研究妊娠中晚期轻度侧脑室增宽胎儿的超声表现以及妊娠结局情况。**方法:**回顾性分析我院产前诊断的 60 例轻度侧脑室增宽的胎儿的声像图资料,均经引产或产后随访证实。**结果:**60 例胎儿中,孤立性者 42 例,合并其它畸形的轻度侧脑室增宽者 18 例(1 例 NTD 高风险,2 例 21-三体高风险)。30 例单侧,30 例双侧,脑室宽度为 10.5~14.5 mm,平均宽度 13.1 mm。22 例终止妊娠,32 例(包括 2 例双胎之一)产前超声侧脑室随访变为正常宽度,4 例产后随访正常,2 例产后超声和 MRI 证实为脑积水。**结论:**超声是诊断胎儿轻度侧脑室增宽的重要影像学手段,对指导妊娠结局有重要意义。

关键词:侧脑室扩张;产前诊断;胎儿超声

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Sonographic Diagnosis of the Fetus with Mild Lateral Ventriculomegaly in Middle and Late Pregnancy

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ABSTRACT Objective: To investigate the ultrasonographic manifestations of mild lateral ventriculomegaly and the pregnancy outcome in middle and late pregnancy. **Methods:** Clinical data of 60 fetuses diagnosed by ultrasound were analyzed retrospectively, which were confirmed by inducing abortion or by postpartum follow-up. **Results:** The total number of fetuses with isolated mild fetal ventriculomegaly were 42 and fetuses with other malformations 18 (1 with high risk of NTD, 2 with high risk 21- trisomy), including 30 cases with unilateral and 30 cases with bilateral mild fetal lateral ventriculomegaly. The average width of the lateral ventricles was 13.1 mm (10.5~14.5 mm). The pregnancy was terminated in 22 pregnant women, and the lateral ventricles in 32 cases (2 cases were one of the of twins) were normal lately, and 4 cases were normal in postpartum follow-up, and 2 cases were hydrocephalus confirmed by ultrasound and MRI. **Conclusion:** Ultrasound is an important imaging means in diagnosing mild fetal lateral ventriculomegaly, and it has an important effect for the outcome of pregnancy.

Key words: Lateral ventriculomegaly; Prenatal diagnosis; Ultrasound

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前言

轻度侧脑室增宽的发病率 1.5/1000~22/1000, 是妊娠中晚期胎儿较常见的颅内结构异常表现之一,可合并或不合并其它系统畸形存在。侧脑室宽度 10~15 mm 为轻度侧脑室增宽。若合并有其它超声可见的异常结构,称为孤立性轻度侧脑室增宽^[1]。由于轻度侧脑室增宽可能为胎儿发育过程中暂时性或功能性脑室内脑脊液积聚的现象,也可能是胎儿畸形的早期表现之一,对胎儿预后具有不确定性。本文回顾性分析 60 例合并或不合并其它系统畸形的轻度侧脑室增宽病例,意在指导妊娠结局。

1 资料与方法

1.1 研究对象

2010 年 1 月至 2012 年 12 月,经产前超声诊断为轻度侧脑室增宽的妊娠中晚期胎儿 60 例,均经引产或产后随访证实,58 例单胎,2 例双胎之一为轻度侧脑室增宽胎儿。孕妇年龄 18~44 岁,孕周 20~38 周。

1.2 仪器及检查方法

所用仪器 GE Voluson 730 Expert 型和 SIEMENS 2000 型彩色多普勒超声仪,探头频率 3.5~5MHz。孕妇仰卧位,首先确定胎位,通过胎儿颅脑最常用的横切面丘脑水平横切面、侧脑室水平横切面和小脑横切面对颅内畸形进行筛查,观察侧脑室是否轻度增宽,若存在侧脑室轻度增宽,进一步观察第三脑室、第四脑室及小脑延髓池是否增宽,同时对胎儿进行系统产前超声检查,排除是否伴随其它系统畸形。胎儿侧脑室三角区(房部)是侧脑室增宽首先受累的部位,且与胎龄无关。取侧脑室水平横断面,声束与侧脑室长轴近似垂直,取离探头远侧的侧脑室三角区进行测量横径。

2 结果

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2.1 超声诊断的轻度侧脑室增宽胎儿与引产或产后随访证实相对照

本组产前超声诊断的轻度侧脑室增宽胎儿 60 例, 其中孤立性者 42 例, 伴有其它畸形的轻度侧脑室增宽者 18 例(1 例 NTD 高风险, 2 例 21- 三体高风险)。30 例单侧侧脑室轻度增宽, 30 例双侧侧脑室轻度增宽, 脑室宽度为 10.5~14.5 mm, 平均宽度 13.1 mm。22 例终止妊娠, 32 例(包括 2 例双胞胎之一)产前超声侧脑室随访变为正常宽度, 4 例产后随访正常, 2 例产后超声和 MRI 证实为脑积水。产前随访和产后随访由轻度侧脑室增宽变为正常宽度的患儿发现大脑发育正常。

2.2 轻度侧脑室增宽胎儿超声表现及临床特点

本组病例孤立性侧脑室增宽 42 例, 其中 19 例为双侧轻度侧脑室增宽, 23 例为单侧轻度侧脑室增宽, 2 例双侧轻度增宽者发展为脑积水。合并有其它畸形的轻度侧脑室增宽者 18 例, 其中 11 例为双侧轻度侧脑室增宽, 7 例单侧轻度侧脑室增宽。5 例双侧轻度侧脑室增宽胎儿伴有胼胝体缺失, 超声表现为侧

脑室宽度为 10.5~14.5 mm, 平均宽度 13.5 mm。侧脑室增大呈 "泪滴状", 透明隔腔消失, 第三脑室增宽, 上移。如图 1(1 例 NTD 高风险) 双侧轻度侧脑室增宽胎儿合并脊柱裂并脊膜膨出, 颅内超声表现为头颅变形, 呈 "柠檬头征", 双侧侧脑室 14 mm 和 14.5 mm, 小脑发育不良, 呈 "香蕉小脑" 征, 颅后窝池消失, 同时观察到脊柱侧弯及脊柱裂的声像图表现。如图 2。1 例合并小脑延髓池增宽、右心功能异常、心包积液及静脉导管血流高阻, 静脉导管血流速度减低, 心房收缩波消失, 提示右心功能异常, 影响静脉系统及脑脊液回流受阻所致。2 例中孕期胎儿双侧侧脑室不对称性增宽及小脑延髓池增宽, 一侧为轻度侧脑室增宽, 一侧为脑积水。3 例 21- 三体高风险胎儿, 超声发现颅内仅为单侧轻度侧脑室增宽, 无超声可以发现的其它颅内中枢神经系统畸形, 合并完全性心内膜垫缺损和十二指肠闭锁。1 例孕妇患有多囊肾, 胎儿表现为单侧侧脑室轻度增宽及双肾发育不良。2 例合并有四肢发育短小和 1 例合并腹腔内囊肿。

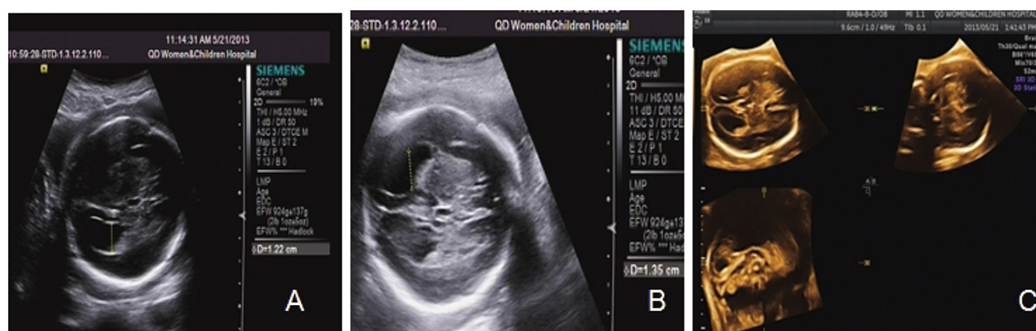


图 1 胎儿双侧侧脑室轻度增宽合并胼胝体缺失

Fig.1 Bilateral mild lateral ventriculomegaly with agenesis of the corpus callosum

注:A:右侧侧脑室后角呈 "泪滴状", 宽约 1.22 cm; B:左侧侧脑室后角呈 "泪滴状", 宽约 1.35 cm; C:三维重建显示透明隔腔未显示, 胼胝体缺失。

Note: A: The posterior horn of right lateral ventricle was 1.22cm and "teardrop"; B: The posterior horn of left lateral ventricle was 1.35cm and "teardrop";

C: The 3D reconstruction displays that cavity of septum pellucidum and the corpus callosum don't exist.



图 2 胎儿双侧侧脑室轻度增宽合并脊柱裂

Fig.2 Bilateral mild lateral ventriculomegaly with spina bifida

注:A:右侧侧脑室后角宽约 1.18 cm, 左侧侧脑室后角宽约 1.29 cm; B: 头颅呈 "柠檬征", 小脑呈 "香蕉征"; C: 三维重建显示胎儿脊柱生理弯曲消失, 腰骶段明显后凸, 椎体排列变形成角。

Note: A: The right lateral ventricle was 1.18cm and the left lateral ventricle was 1.29cm; B: The skull looks like "lemon", cerebellum looks like "banana";

C: The 3D reconstruction displays the physiological curvature of spine vanishes, and lumbar and sacral vertebrae are obvious kyphosis angle, and they are abnormal.

3 讨论

3.1 孤立性轻度侧脑室增宽的妊娠结局

Eizenberg^[2]等在回顾性研究 234 例孤立性轻度侧脑室增宽

患者后认为, 大多数病例无不良的后果, 但出生后发生脑及神经系统发育不良以及染色体异常的危险性较正常者大为提高, 尤其是 >12 mm 或妊娠中期即发生脑室扩张者。本组孤立性轻度侧脑室增宽者 42 例, 38 例正常出生, 4 例终止妊娠。36 例妊

娠期间随访及出生后 MRI 检查均提示侧脑室正常,2 例发展为脑积水。本研究发现孤立性轻度侧脑室增宽的大部分病例不会发展成为脑积水,可能为正常的生理变异或为脑脊液暂时性引流延迟或分泌过多暂时性表现。Signorelli 等报道 60 例侧脑室宽度 10~12 mm 的孤立性轻度侧脑室增宽病例^[3],100%预后良好,因此认为 10~12 mm 的孤立性轻度侧脑室增宽是一种正常变异。正常变异中一般男胎平均侧脑宽度较女胎大,因而孤立性轻度侧脑室增宽在男胎中更常见^[4]。晚孕期胎儿也可为染色体异常、颅内结构异常、宫内感染、颅内出血等多种疾病的早期征象之一。据报道约 5%~10% 的孤立性轻度侧脑室增宽的胎儿为染色体异常,其中最多见的为 21-三体^[5-11],目前多数产前诊断中心已将轻度侧脑室增宽作为孕中期检查的胎儿染色体异常的软标记之一^[12]。孤立性轻度侧脑室增宽宫内超声监测逐渐消失,至出生前已恢复至正常脑组织结构,随访至 6 个月龄以上,均无任何异常发现,则预后较好。

3.2 合并有其它畸形的轻度侧脑室增宽的妊娠结局

国外对胎儿侧脑室扩张宫内演变大多借鉴 Hudgins 等的研究,国内还未见相关报道。出生前消失或有恢复趋势的转归占 29%(86/295),无明显变化的占 57%(169/295),进展扩大的占 14%(40/295)^[13-17]。但文献未对孤立性轻度侧脑室增宽和合并有其它畸形的轻度侧脑室增宽的妊娠结局分别报道。本研究中,18 例(30%)为合并其它畸形的轻度侧脑室增宽胎儿,均行终止妊娠。因此超声检查首先必须明确脑室扩张有无合并中枢神经系统和非中枢神经系统结构畸形,这些畸形是决定预后的根本性畸形。孤立性与合并有其它畸形的轻度侧脑室扩张在宫内转归有显著差异。2 例为 21-三体(3.3%合并染色体异常),与文献报道染色体异常发生率为 4%^[18]基本一致。产前筛查应排除是否合并染色体异常,如果怀疑非整倍体风险增加,就应行胎儿染色体核型分析。最后,必须排除是否合并胎儿颅内感染、颅内出血、肿瘤、缺血缺氧性脑损害。脑室扩张可见于宫内获得性感染,以弓形虫、巨细胞病毒、细小病毒和风疹病毒感染最常见,孕期病毒感染特别是巨细胞病毒感染,晚孕时也常会导致孤立性轻度侧脑室增宽及脑室旁混合回声等异常表现^[19,20]。

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