

不同切面超声筛查在早中期孕妇孕检胎儿颜面部筛查中的应用

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【摘要】目的:探讨不同切面超声筛查在早中期孕妇孕检胎儿颜面部筛查中的应用价值。**方法:**选取2016年3月~2018年4月于重庆市开州区人民医院进行孕检的孕妇1 800例,先采用单一切面超声筛查(鼻唇冠状切面),再采用常规三切面联合特殊切面法进行筛查。常规三切面包括:唇水平横切面、颜面部正中矢状切面以及鼻唇冠状切面;特殊切面法包括:经面颊部斜横切面,经梨状孔硬腭斜冠状切面、矢状切面以及经下颌或下唇斜冠状切面。对两种扫描方法的筛查结果进行诊断,对比两种筛查方法的诊断准确率,分析两种检查方法的图像结果特点。**结果:**采用鼻唇冠状切面法的畸形检出率仅为55.56%,而采用常规三切面联合特殊切面法的畸形检出率为100%,两者间具有统计学差异,后者比前者更加有效。**结论:**对于早中期孕妇孕检胎儿颜面部唇腭裂畸形的筛查,常规三切面联合特殊切面法相比于单一鼻唇冠状切面法能够更全面地观察到唇腭裂畸形胎儿的各项畸形指征,从而更准确地检出胎儿的唇腭裂畸形,具有重要的临床应用价值。

【关键词】超声;胎儿;颜面部畸形;常规三切面联合特殊切面法

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Application of ultrasound screening of different sections in fetal facial screening during early and mid-pregnancy

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Abstract: Objective To explore the application value of ultrasound screening of different sections for fetal facial screening during early and mid-pregnancy. **Methods** A total of 1 800 pregnant women who had pregnancy test in Kaizhou District People's Hospital from March 2016 to April 2018 were enrolled in the study. The ultrasound screening of single section (nasolabial coronal section) was firstly used for screening, and then the ultrasound screening of conventional 3 sections combined with special sections were applied. The conventional 3 sections included horizontal section of lip, median sagittal section of face and nasolabial coronal section, while the special sections included oblique cross-section of cheek, oblique coronal section and sagittal section of the hard palate through piriform aperture, and oblique coronal section of mandible or lower lip. The diagnostic analysis was carried out based on the screening results which were obtained by two different ultrasound screenings. The diagnostic accuracy and imaging features of two methods were compared and analyzed. **Results** All sections had certain respond to cleft lip and palate. However, the detection rate of malformations with the ultrasound screening of nasolabial coronal section was only 55.56%, lower than 100% which was obtained by the ultrasound screening of conventional 3 sections combined with special sections, with statistical differences. Therefore, the latter was considered to be more effective than the former. **Conclusion** In the screening for fetal cleft lip and palate during early and mid-pregnancy, compared with the ultrasound screening of single section, the ultrasound screening of conventional 3 sections combined with special sections can be used to comprehensively observe the deformity indications of fetal cleft lip and palate, thereby accurately detecting fetal cleft lip and palate, with important clinical application value.

Keywords: ultrasound; fetus; facial deformity; 3 sections combined with special sections

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前言

随着产前诊断技术的不断发展,临床上畸形胎儿的出生率正在逐渐下降,唇腭裂作为一种常见的胎儿颜面部畸形,唇腭裂胎儿出生后不能正常吸吮

乳汁,不仅影响胎儿的生长发育,胎儿长大后,也常因此受到严重的心理影响^[1-2]。因此,颜面部唇腭裂畸形的筛查是产前诊断的重要项目。以往,临床上对于颜面部畸形的筛查采用的是单一鼻唇冠状切面超声检查,检出率不高。也曾有临床报道联合采用唇水平横切面、颜面部正中矢状切面以及鼻唇冠状切面对胎儿进行颜面部筛查,但检出率仍较低,尤其对单纯唇腭裂的检出率不足10%^[3-4]。目前临床上开始普遍应用常规三切面联合特殊切面法对早中期胎儿进行颜面部畸形筛查,本次研究对1 800名孕妇采用两种不同的切面法进行超声筛查,与出生后或引产后死胎尸检的颜面部检查结果进行比对,分析常规三切面联合特殊切面法对早中期胎儿颜面部畸形的超声筛查应用价值,并总结归纳鼻唇冠状切面和常规三切面联合特殊切面法的超声图像特点,为临床应用提供理论帮助。

1 资料与方法

1.1 一般资料

2016年3月至2018年4月于重庆市开州区人民医院进行孕检的早中期孕妇1 800例,该研究经过患者知情同意并经重庆市开州区人民医院伦理委员会批准,胎儿性别未告知家属。

1.2 纳入及排除标准

纳入标准:所有孕妇均为单胎妊娠;孕妇年龄在35岁以下;孕妇BMI值在对应孕周的正常范围内;所有胎儿的各切面扫描资料均能获取^[5]。排除标准:有畸形或其它先天性疾病胎儿妊娠史的孕妇;近亲结婚的孕妇;患有全身系统性疾病的孕妇;患有如高血压、糖尿病等慢性疾病的孕妇;合并重度腹水、肝性脑病、食管胃底静脉曲张破裂出血等严重并发症的患者。

1.3 仪器与方法

1.3.1 仪器 Acuson Sequoia 512、GE Voluson E8、AcusonAntares型彩色多普勒超声诊断仪。探头频率设置为4.0~9.0 MHz,软件系统采用蓝韵专业超声产前检查系统。

1.3.2 方法 先对受试对象行单一鼻唇冠状切面扫描,再采用常规三切面联合特殊切面法。常规三切面包括:鼻唇冠状切面(图1a)、颜面部正中矢状切面(图1b)、唇水平横切面(图1c)。发现唇部异常胎儿即增加特殊切面进行筛查:经下颌或下唇斜冠状切面(图1d)和矢状切面(图1e)是显示硬腭裂直接征象的有效切面,腭裂时硬腭回声连续中断;经梨状孔硬腭斜冠状切面(图1f)和经面颊部斜横切面(图1g)观察胎儿颜面及唇部异常表现及强回声腭的连续性,

当上腭连续性回声中断时,可通过此切面从鼻腔观察到舌的运动,有时可见舌在鼻腔和口腔间来回运动。每例患儿保存口唇部扫查切面图3~4副,超声检查后,对每一个受试对象随访至引产后或产后一周,统计胎儿出生时或引产后的一般资料信息,进行颜面部检查,与超声扫查结果进行比对。对超声扫描图像的判定由两位具有丰富经验的影像医师同时进行。

1.4 统计学方法

应用SPSS 22.0软件处理,计数资料采用率表示。计数资料采用 χ^2 检验。检验水准为 $\alpha=0.05$, $P<0.05$ 为差异有统计学意义。

2 结果

2.1 唇腭裂检出率

单一切面法检出例数为5例;常规三切面联合特殊切面法检出例数为9例。出生或引产后进行颜面部检查证实唇腭裂胎儿9例。单一切面法的检出率为55.56%,常规三切面联合特殊切面法的检出率为100%,两种检查方法的检出率之间存在显著差异($\chi^2=5.142\ 9$, $P=0.023\ 3$)。

2.2 不同类型唇腭裂患儿的超声表现

畸形儿中,各类型唇腭裂的例数分别为单侧唇裂3例,单侧唇腭裂2例,双侧唇裂2例,双侧唇腭裂1例,中央唇腭裂1例。不同类型唇腭裂患儿的超声异常表现见表1和表2。

3 讨论

唇腭裂是一种极为常见的胎儿颜面部畸形,亚洲人的发病率可达0.15%~0.20%^[6],在我国的发病率高达0.18%^[7-8]。唇腭裂中,腭裂一般更为常见,可以单独发生,也可合并唇裂。大部分唇腭裂患儿不仅有软组织的畸形,还可伴发不同程度的骨组织畸形^[9]。唇腭裂畸形可对患儿的吮吸、进食功能产生损害,严重影响患儿早期营养摄取和发育,若不能及时纠正,还将影响患儿的语言学习。另外,唇腭裂可导致患儿的颌骨生长发育障碍,影响脸部结构,可对患儿产生极大的心理负担^[10-11]。腭裂发生的原因仍不清楚,目前认为可能与妊娠期间的营养缺乏、内分泌异常、病毒感染以及遗传因素有关^[12]。虽然现在临床上已经广泛开展口腔颌面外科手术对唇腭裂畸形进行矫正,但若在早期对患儿进行手术,手术麻醉可能对患儿的生长发育产生影响,并且随着患儿的生长发育,手术的远期效果也不能明确,若到患儿3~6岁时再进行手术治疗,又无法弥补畸形在前期对患

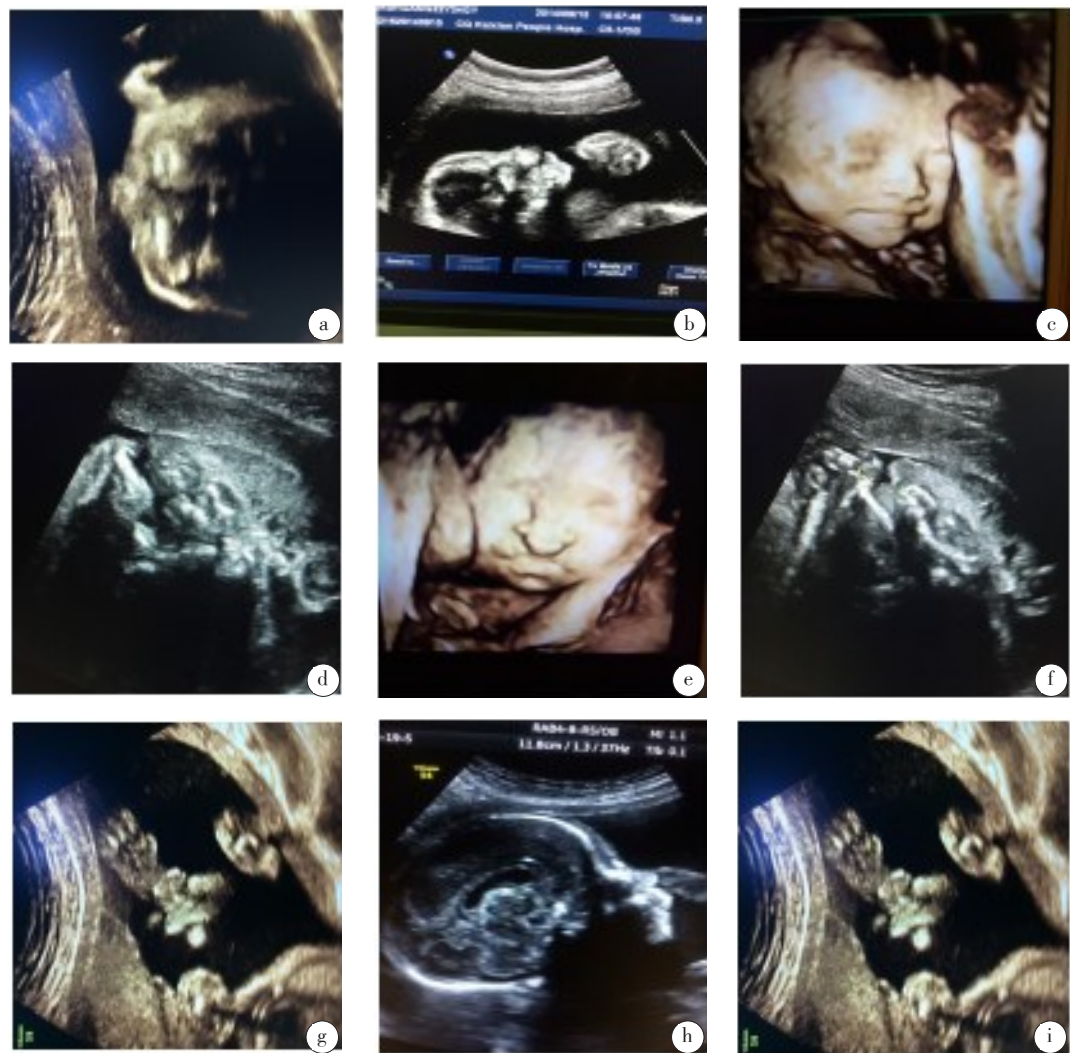


图1 各切面下的唇腭裂胎儿图像

Fig.1 Images of fetal cleft lip and palate under each section

a:鼻唇冠状切面;b:颜面部正中矢状切面;c:唇水平横切面;d:经下颌或下唇斜冠状切面;e:矢状切面;f:经梨状孔硬腭斜冠状切面;g:经面颊部斜横切面;h:鼻唇冠状切面示双侧唇裂;i:颜面部正中矢状切面示左侧唇腭裂

表1 唇腭裂患儿畸形类型及不同扫查切面超声异常表现

Tab.1 Types of malformations in fetuses with cleft lip and palate and ultrasound abnormalities under different sections

唇腭裂类型	例数	单一鼻唇冠状切面	常规三切面联合特殊切面				
			面部正中矢状切面	唇水平横切面	经下颌或下唇斜冠状切面	面颊部斜横切面	梨状孔硬腭斜冠状切面
单侧唇裂	3	+(-)	-	++(-)	++(-)	-	-
单侧唇腭裂	2	+(-)	-	++	+(-)	+(-)	+
双侧唇裂	2	+(-)	+(-)	+(-)	++	-	-
双侧唇腭裂	1	+	+	+	+	+	+
中央唇腭裂	1	+	+	+	+	+	+

+表示该切面下均可观察到异常表现;-表示该切面下均未观察到异常表现;+(-)表示该切面下1例观察到异常表现,2例未观察到异常表现;++(-)表示该切面下2例观察到异常表现,1例未观察到异常表现;+(-)表示该切面下1例观察到异常表现,1例未观察到异常表现

儿造成的各种影响^[13-14]。因此,在孕早期和孕中期采用有效的检查手段筛查出唇腭裂畸形患儿,对降低唇腭裂患儿的出生率,促进优生优育有着重要意义。对于产妇而言,无创且直观的影像学方法是首

表2 不同类型唇腭裂患儿的超声下表现

Tab.2 Ultrasound findings of fetuses with different types of cleft lip and palate

唇腭裂类型	例数	鼻孔塌陷	口角异常	上颌连续性回声中断	上牙槽突裂	上唇皮肤连续性中断
单侧唇裂	3	1	0	3	0	2
单侧唇腭裂	2	1	0	2	2	1
双侧唇裂	2	1	1	1	1	1
双侧唇腭裂	1	1	0	1	1	1
中央唇腭裂	1	1	0	1	1	1

选的产前诊断手段,其中,又以无放射性的超声最为常用^[15]。临床上应用超声进行产前诊断已经有较长时间,各项技术也发展的较为成熟,以前的产前超声对颜面部畸形的扫描仪采用单一鼻唇冠状切面扫描,筛查效果不尽人意^[16-17]。现在临床上开始采用常规三切面联合特殊切面法进行筛查,其主要特点在于,从冠状切面、矢状切面以及横切面这3个相垂直的切面对胎儿的颜面部进行筛查,从更多的切面上去观察,从而提高颜面部畸形的检出率^[18]。另外,经下唇或下颌斜冠状切面和矢状切面或经梨状孔硬腭斜冠状切面能够直接显示硬腭征象^[19]。在前者的影像中,正常硬腭的前部表现为弧形强回声带,后部为平直强回声带,有腭裂时表现为上述回声带的连续性中断,还可在实时超声下观察到舌活动范围增大的鼻腔^[20]。后者的正常影像中,强回声的硬腭后方可见明显声影,将鼻腔和口腔分开,若是腭裂畸形胎儿,则不存在该声影,鼻腔和口腔相互连通,可观察到舌在鼻腔中的运动^[21]。

本次实验结果显示,相比于单一的鼻唇冠状切面,常规三切面联合特殊切面法能够对唇腭裂的类型进行更好的鉴别。另外,单一鼻唇冠状切面漏检的4例患儿中,2例是由于患儿仅为唇红裂,粘膜回声仍呈连续性,故未能检出;2例是由于上唇前方羊水量较少,且上唇呈带状连续,无法对上牙槽突的连续性和乳牙的排列进行观察。而采用多个切面的联合诊断,有助于暴露出在某一切面并不是很明显的畸形征象,从而显著提高检出率,对产前诊断和指导以及胎儿出生后的喂养具有重要意义。

但该切面法的缺点在于影响因素较多,常常因为胎儿的体位原因不能完整获取,所以临床上仍未作为常规的颜面部畸形筛查方法,主要是应用于在鼻唇冠状切面发现胎儿唇裂时,对胎儿进行进一步的筛查,以防对腭裂的漏诊^[22]。超声筛查在产前诊断中的应用,仍有待进一步的探索。

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