

- in a stillborn. [J]. Fetal pediatr pathol, 2012, 31(2):43-49.
- [7] 张壹,张晓媛,艾迪,等.产前超声诊断胎儿卵圆孔早闭1例[J].中国医学影像学杂志,2021,29(9):928-929.
- [8] 艾冰,李群芳,黄建国.胎儿卵圆孔早闭超声表现1例[J].世界最新医学信息文摘,2016,16(46):122-123.
- [9] 陈巧琼,丁尚伟,谢玉环,等.胎儿卵圆孔功能性早闭超声检查一例[J].中国妇产科临床杂志,2019,20(2):178-179.
- [10] JU SHUANG, DONG SHAN, SONG LI, et al. Functional premature closure of the fetal foramen ovale: A case report [J]. Int J Gynaecol Obstet, 2021, 154(3):572-573.
- [11] 田玉翠,刘妍,王红梅,等.胎儿卵圆孔早闭/血流受限4例并文献复习[J].医学综述,2018,24(4):820-826.
- [12] DONOFRIO MT. Images in cardiovascular medicine. Premature closure of the foramen ovale and ductus arteriosus in a fetus with transposition of the great arteries [J]. Circulation, 2002, 105(11):e65-e66.
- [13] IWAMOTO Y, TAMAI A, KAWASAKI H, et al. Late clinical manifestations of mitral valve disease and severe pulmonary hypertension in a patient diagnosed with premature closure of foramen ovale during fetal life [J]. World J Pediatr, 2011, 7(2):182-184.
- [14] JAIMAN S. Coronary Sinus Defect, Premature Restriction of Foramen Ovale and Cysto-Colic Peritoneal Band [J]. Fetal Pediatr Pathol, 2023, 42(2):291-296.
- [15] TERROBA SEARA S, OULEGU ERROZ I, LOBETE PRIETO C, et al. Foramen oval restrictivo intrauterino: causa de hipertensión pulmonar neonatal [Intrauterine restrictive foramen ovale: cause of neonatal pulmonary hypertension] [J]. Arch Argent Pediatr, 2019, 117(6):e626-e630.
- [16] KATHARINA STOCK, MIRIAM MICHEL, ELISABETH SCHERMER, et al. Presumed prenatal closure of foramen ovale and persistent pulmonary hypertension of the newborn [J]. Cardiology in the Young, 2020, 30(2):281-283.
- [17] TULZER A, ARZT W, PRANDSTETTER C, et al. Atrial septum stenting in a foetus with hypoplastic left heart syndrome and restrictive foramen ovale: an alternative to emergency atrioseptectomy in the newborn-a case report [J]. Eur Heart J Case Rep, 2020, 4(1):1-4.

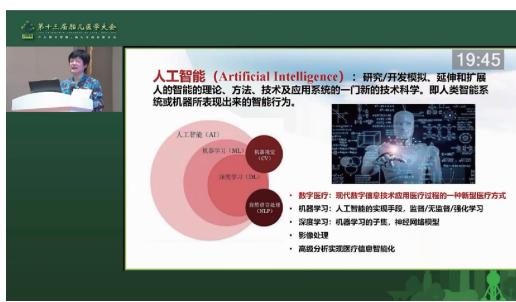
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· 视频导读 ·

数字医疗赋能生殖/围产医学

黄荷凤(浙江大学医学院)



生殖医学家、中国科学院院士黄荷凤教授为我们带来了“数字医疗赋能生殖/围产医学”的前沿报道。黄院士团队利用深度学习技术识别染色体核型,研发的样机检测准确率超过95%;开发基于cfDNA基因逆卷积分析技术的NIPT2.0版,首次对显性单基因病进行产前筛查;建构基于家系遗传背景的多基因病风险评估模型,实现了国内首例PGT-P(preimplantation genetic testing)在慢病胚胎期的防控;研发

“5G+AI+云生信+远程超声”一站式会诊平台,实现超快速的基因数据传输与分析诊断。

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