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Date: 17 March 2020
Sources Searched: Medline, Embase, PubMed.

COVID-19 and Mortality and Morbidity in Pregnancy

See full search strategy

1. Lack of Vertical Transmission of Severe Acute Respiratory Syndrome Coronavirus 2, China.

Author(s): Li, Yang; Zhao, Ruihong; Zheng, Shufa; Chen, Xu; Wang, Jinxi; Sheng, Xiaoli; Zhou, Jianying; Cai, Hongliu; Fang, Qiang; Yu, Fei; Fan, Jian; Xu, Kaijin; Chen, Yu; Sheng, Jifang

Source: Emerging infectious diseases; Jun 2020; vol. 26 (no. 6)

Publication Date: Jun 2020

Publication Type(s): Journal Article

PubMedID: 32134381

Available at Emerging infectious diseases - from Europe PubMed Central - Open Access

Available at Emerging infectious diseases - from Free Medical Journals . com

Available at Emerging infectious diseases - from Unpaywall

Abstract:A woman with 2019 novel coronavirus disease in her 35th week of pregnancy delivered an infant by cesarean section in a negative-pressure operating room. The infant was negative for severe acute respiratory coronavirus 2. This case suggests that mother-to-child transmission is unlikely for this virus.

Database: Medline

2. Clinical characteristics and intrauterine vertical transmission potential of COVID-19 infection in nine pregnant women: a retrospective review of medical records.

Author(s): Chen, Huijun; Guo, Juanjuan; Wang, Chen; Luo, Fan; Yu, Xuechen; Zhang, Wei; Li, Jiafu; Zhao, Dongchi; Xu, Dan; Gong, Qing; Liao, Jing; Yang, Huixia; Hou, Wei; Zhang, Yuanzhen

Source: Lancet (London, England); Mar 2020; vol. 395 (no. 10226); p. 809-815

Publication Date: Mar 2020

Publication Type(s): Journal Article

PubMedID: 32151335

Abstract:BACKGROUNDPrevious studies on the pneumonia outbreak caused by the 2019 novel coronavirus disease (COVID-19) were based on information from the general population. Limited data are available for pregnant women with COVID-19 pneumonia. This study aimed to evaluate the clinical characteristics of COVID-19 in pregnancy and the intrauterine vertical transmission potential of COVID-19 infection.METHODSClinical records, laboratory results, and chest CT scans were retrospectively reviewed for nine pregnant women with laboratory-confirmed COVID-19 pneumonia (ie, with maternal throat swab samples that were positive for severe acute respiratory syndrome coronavirus 2 [SARS-CoV-2]) who were admitted to Zhongnan Hospital of Wuhan University, Wuhan, China, from Jan 20 to Jan 31, 2020. Evidence of intrauterine vertical transmission was assessed by testing for the presence of SARS-CoV-2 in amniotic fluid, cord blood, and neonatal throat swab samples. Breastmilk samples were also collected and tested from patients after the first lactation.FINDINGSAll nine patients had a caesarean section in their third trimester. Seven patients presented with a fever. Other symptoms, including cough (in four of nine patients), myalgia (in three), sore throat (in two), and malaise (in two), were also observed. Fetal distress was monitored in two cases. Five of nine patients had lymphopenia ($<1{\cdot}0 \times 10^9$ cells per L). Three patients had increased aminotransferase concentrations. None of the patients developed severe COVID-19 pneumonia or died, as of Feb 4, 2020. Nine livebirths were recorded. No neonatal asphyxia was observed in newborn babies. All nine livebirths had a 1-min Apgar score of 8-9 and a 5-min Apgar score of 9-10. Amniotic fluid, cord blood, neonatal throat swab, and breastmilk samples from six patients were tested for SARS-CoV-2, and all samples tested negative for the virus.INTERPRETATIONThe clinical characteristics of COVID-19 pneumonia in pregnant women were similar to those reported for non-pregnant adult patients who developed COVID-19 pneumonia. Findings from this small group of cases suggest that there is currently no evidence for intrauterine infection caused by vertical transmission in women who develop COVID-19 pneumonia in late pregnancy.FUNDINGHubei Science and Technology Plan, Wuhan University Medical Development Plan.

Database: Medline

3. What are the risks of COVID-19 infection in pregnant women?

Author(s): Qiao, Jie

Source: Lancet (London, England); Mar 2020; vol. 395 (no. 10226); p. 760-762

Publication Date: Mar 2020

Publication Type(s): Journal Article

PubMedID: 32151334

Available at Lancet (London, England) - from Patricia Bowen Library & Knowledge Service West Middlesex University Hospital NHS Trust (lib302631) Local Print Collection [location] : Patricia Bowen Library and Knowledge Service West Middlesex university Hospital.

Available at Lancet (London, England) - from Unpaywall

Database: Medline

4. Novel coronavirus infection and pregnancy.

Author(s): Yang, H; Wang, C; Poon, L C

Source: Ultrasound in obstetrics & gynecology : the official journal of the International Society of Ultrasound in Obstetrics and Gynecology; Mar 2020

Publication Date: Mar 2020

Publication Type(s): Journal Article

PubMedID: 32134165

Available at Ultrasound in obstetrics & gynecology : the official journal of the International Society of Ultrasound in Obstetrics and Gynecology - from Wiley Online Library

Available at Ultrasound in obstetrics & gynecology : the official journal of the International Society of Ultrasound in Obstetrics and Gynecology - from Unpaywall

Database: Medline

5. Clinical manifestations and outcome of SARS-CoV-2 infection during pregnancy.

Author(s): Liu, Yangli; Chen, Haihong; Tang, Kejing; Guo, Yubiao

Source: The Journal of infection; Mar 2020

Publication Date: Mar 2020

Publication Type(s): Letter

PubMedID: 32145216

Available at The Journal of infection - from Unpaywall

Database: Medline

6. Coronavirus disease (COVID-19) and neonate: What neonatologist need to know.

Author(s): Lu, Qi; Shi, Yuan

Source: Journal of medical virology; Mar 2020

Publication Date: Mar 2020

Publication Type(s): Journal Article Review

PubMedID: 32115733

Available at Journal of medical virology - from Wiley Online Library

Available at Journal of medical virology - from Unpaywall

Abstract: Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) cause china epidemics with high morbidity and mortality, the infection has been transmitted to other countries. About 3 neonates and more than 230 children cases are reported. The disease condition of mainly children was mild. There is currently no evidence that SARS-CoV-2can be transmitted transplacentally from mother to the newborn. The treatment strategy for children with Coronavirus disease (COVID-19) is based on adult experience. Thus far, no deaths have been reported in the paediatric age group. This review describes the current understanding of COVID-19 infection in newborns and children. This article is protected by copyright. All rights reserved.

Database: Medline

7. Clinical and CT Imaging Features of the COVID-19 Pneumonia: Focus on Pregnant Women and Children.

Author(s): Liu H; Liu F; Li J; Zhang T; Wang D; Lan W

Source: The Journal of infection; Mar 2020

Publication Date: Mar 2020

Publication Type(s): Journal Article

PubMedID: 32171865

Abstract:BACKGROUND: The ongoing outbreak of COVID-19 pneumonia is globally concerning. We aimed to investigate the clinical and CT features in the pregnant women and children with this disease, which have not been well reported.METHODS: Clinical and CT data of 59 patients with COVID-19 from January 27 to February 14, 2020 were retrospectively reviewed, including 14 laboratory-confirmed non-pregnant adults, 16 laboratory-confirmed and 25 clinically-diagnosed pregnant women, and 4 laboratory-confirmed children. The clinical and CT features were analyzed and compared.FINDINGS: Compared with the non-pregnant adults group (n=14), initial normal temperature (9 [56%] and 16 [64%]), leukocytosis (8 [50%] and 9 [36%]) and elevated neutrophil ratio (14 [88%] and 20 [80%]), and lymphopenia (9 [56%] and 16 [64%]) were more common in the laboratory-confirmed (n=16) and clinically-diagnosed (n=25) pregnant groups. Totally 614 lesions were detected with predominantly peripheral and bilateral distributions in 54 (98%) and 37 (67%) patients, respectively. Pure ground-glass opacity (GGO) was the predominant presence in 94/131 (72%) lesions for the non-pregnant adults. Mixed consolidation and complete consolidation were more common in the laboratory-confirmed (70/161 [43%]) and clinically-diagnosed (153/322 [48%]) pregnant groups than 37/131 (28%) in the non-pregnant adults (P=0•007, P<0•001). GGO with reticulation was less common in 9/161 (6%) and 16/322 (5%) lesions for the two pregnant groups than 24/131 (18%) for the non-pregnant adults (P=0•001, P<0•001). The pulmonary involvement in children with COVID-19 was mild with a focal GGO or consolidation. Twenty-three patients underwent follow-up CT, revealing progression in 9/13 (69%) at 3 days whereas improvement in 8/10 (80%) at 6 to 9 days after initial CT scans.INTERPRETATION: Atypical clinical findings of pregnant women with COVID-19 could increase the difficulty in initial identification. Consolidation was more

common in the pregnant groups. The clinically-diagnosed cases were vulnerable to more pulmonary involvement. CT was the modality of choice for early detection, severity assessment, and timely therapeutic effects evaluation for the cases with epidemic and clinical features of COVID-19 with or without laboratory confirmation. The exposure history and clinical symptoms were more helpful for screening in children versus chest CT.

Database: PubMed

8. ISUOG Interim Guidance on 2019 novel coronavirus infection during pregnancy and puerperium: information for healthcare professionals.

Author(s): Poon LC; Yang H; Lee JCS; Copel JA; Leung TY; Zhang Y; Chen D; Prefumo F

Source: Ultrasound in obstetrics & gynecology : the official journal of the International Society of Ultrasound in Obstetrics and Gynecology; Mar 2020

Publication Date: Mar 2020

Publication Type(s): Journal Article

PubMedID: 32160345

Available at Ultrasound in obstetrics & gynecology : the official journal of the International Society of Ultrasound in Obstetrics and Gynecology - from Wiley Online Library

Available at Ultrasound in obstetrics & gynecology : the official journal of the International Society of Ultrasound in Obstetrics and Gynecology - from Unpaywall

Database: PubMed

9. Novel corona virus disease (COVID-19) in pregnancy: What clinical recommendations to follow?

Author(s): Liang H; Acharya G

Source: Acta obstetricia et gynecologica Scandinavica; Mar 2020

Publication Date: Mar 2020

Publication Type(s): Journal Article

PubMedID: 32141062

Available at Acta obstetricia et gynecologica Scandinavica - from Wiley Online Library

Available at Acta obstetricia et gynecologica Scandinavica - from Unpaywall

Database: PubMed

10. [Pregnant women with new coronavirus infection: a clinical characteristics and placental pathological analysis of three cases].

Author(s): Chen S; Huang B; Luo DJ; Li X; Yang F; Zhao Y; Nie X; Huang BX

Source: Zhonghua bing li xue za zhi = Chinese journal of pathology; Mar 2020; vol. 49 (no. 0); p. E005

Publication Date: Mar 2020

Publication Type(s): English Abstract; Journal Article

PubMedID: 32114744

Abstract: Objective: To investigate the clinical characteristics and placental pathology of 2019-nCoV infection in pregnancy, and to evaluate intrauterine vertical transmission potential of 2019-nCoV infection. Methods: The placentas delivered from pregnant women with confirmed 2019-nCoV infection which were received in the Department of Pathology, Union Hospital, Tongji Medical College, Huazhong University of Science and Technology collected by February 4th, 2020 and retrospectively studied. Their clinical material including placental tissue and lung CT, and laboratory results were collected, meanwhile, nucleic acid detection of 2019-nCoV of the placentas were performed by RT-PCR. Results: Three placentas delivered from pregnant women with confirmed 2019-nCoV infection, who were all in their third trimester with emergency caesarean section. All of the three patients presented with fever (one before caesarean and two in postpartum), and had no significant leukopenia and lymphopenia. Neonatal throat swabs from three newborns were tested for 2019-nCoV, and all samples were negative for the nucleic acid of 2019-nCoV. One premature infant was transferred to Department of Neonatology due to low birth weight. By the end of February 25, 2020, none of the three patients developed severe 2019-nCoV pneumonia or died(two patients had been cured and discharged, while another one had been transferred to a square cabin hospital for isolation treatment). There were various degrees of fibrin deposition inside and around the villi with local syncytial nodule increases in all three placentas. One case of placenta showed the concomitant morphology of chorionic hemangioma and another one with massive placental infarction. No pathological change of villitis and chorioamnionitis was observed in our observation of three cases. All samples from three placentas were negative for the nucleic acid of 2019-nCoV. Conclusions: The clinical characteristics of pregnant women with 2019-nCoV infection in late pregnancy are similar to those of non-pregnant patients, and no severe adverse pregnancy outcome is found in the 3 cases of our observation. Pathological study suggests that there are no morphological changes related to infection in the three placentas. Currently no evidence for intrauterine vertical transmission of 2019-nCoV is found in the three women infected by 2019-nCoV in their late pregnancy.

Database: PubMed

11. Analysis of the pregnancy outcomes in pregnant women with COVID-19 in Hubei Province

Author(s): Zhang L.; Jiang Y.; Wei M.; Cheng B.H.; Li J.; Tian J.H.; Dong L.; Zhou X.C.; Hu R.H.

Source: Zhonghua fu chan ke za zhi; Mar 2020; vol. 55

Publication Date: Mar 2020

Publication Type(s): Article

PubMedID: 32145714

Abstract: Objective: To study the effect of COVID-19 on pregnancy outcomes and neonatal prognosis in Hubei Province. Method(s): A retrospective comparison of the pregnancy outcomes was done between 16 women with COVID-19 and 45 women without COVID-19. Also, the results of laboratory tests, imaging examinations, and the 2019-nCoV nucleic acid test were performed in 10 cases of neonatal deliverd from women with COVID-19. Result(s): (1) Of the 16 pregnant women with COVID-19, 15 cases were ordinary type and 1 case was severe type. No one has progressed to critical pneumonia. The delivery method of the two groups was cesarean section, and the gestational age were (38.7+/-1.4) and (37.9+/-1.6) weeks, there was no significant difference between the two groups (P> 0.05). Also, there wee no significant differences in the intraoperative blood loss and birth weight of the newborn between the two groups (all P>0.05). (2) Ten cases of neonates delivered from pregnant women with COVID-19 were collected. The 2019-nCoV nucleic acid test were all negative. There were no significant differences in fetal distress, meconium-stained amniotic fluid, preterm birth, and neonatal asphyxia between the two groups (all P>0.05). (3) In the treatment of uterine contraction fatigue, carbetocin or carboprost tromethamine was used more in cesarean section for pregnant women with COVID-19 (1.3+/-0.6), compared with Non-COVID-19 group (0.5+/-0.7), the difference was statistically significant (P=0.001). Conclusion(s): If there is an indication for obstetric surgery or critical illness of COVID-19 in pregnant women, timely termination of pregnancy will not increase the risk of premature birth and asphyxia of the newborn, but it is beneficial to the treatment and rehabilitation of maternal pneumonia. Preventive use of long-acting uterotonic agents could reduce the incidence of postpartum hemorrhage during surgery. 2019-nCoV infection has not been found in neonates deliverd from pregnant women with COVID-19.

Database: EMBASE

12. Lack of maternal-fetal SARS-CoV-2 transmission.

Author(s): Stower H

Source: Nature medicine; Mar 2020; vol. 26 (no. 3); p. 312

Publication Date: Mar 2020

Publication Type(s): Journal Article

PubMedID: 32161408

Available at Nature medicine - from Unpaywall

Database: PubMed

13. A case report of neonatal COVID-19 infection in China.

Author(s): Wang, Shaoshuai; Guo, Lili; Chen, Ling; Liu, Weiyong; Cao, Yong; Zhang, Jingyi; Feng, Ling

Source: Clinical infectious diseases : an official publication of the Infectious Diseases Society of America; Mar 2020

Publication Date: Mar 2020

Publication Type(s): Journal Article

PubMedID: 32161941

Available at Clinical infectious diseases : an official publication of the Infectious Diseases Society of America - from Oxford Journals - Medicine

Abstract: In December 2019, the 2019 novel coronavirus disease (COVID-19) caused by SARS-CoV-2 emerged in China and now has spread in many countries. Pregnant women are susceptible population of COVID-19 which are more likely to have complications and even progresse to severe illness. We report a case of neonatal COVID-19 infection in China with pharyngeal swabs tested positive by rRT-PCR assay 36 hours after birth. However, whether the case is a vertical transmission from mother to child remains to be confirmed.

Database: Medline

14. A case of 2019 Novel Coronavirus in a pregnant woman with preterm delivery.

Author(s): Wang, Xiaotong; Zhou, Zhiqiang; Zhang, Jianping; Zhu, Fengfeng; Tang, Yongyan; Shen, Xinghua

Source: Clinical infectious diseases : an official publication of the Infectious Diseases Society of America; Feb 2020

Publication Date: Feb 2020

Publication Type(s): Journal Article

PubMedID: 32119083

Available at Clinical infectious diseases : an official publication of the Infectious Diseases Society of America - from Oxford Journals - Medicine

Available at Clinical infectious diseases : an official publication of the Infectious Diseases Society of America - from Unpaywall

Abstract: We presented a case of a 30-week pregnant woman with COVID-19 delivering a healthy baby with no evidence of COVID-19.

Database: Medline

15. Coronavirus Disease 2019 (COVID-19) and Pregnancy: What obstetricians need to know.

Author(s): Rasmussen, Sonja A; Smulian, John C; Lednicky, John A; Wen, Tony S; Jamieson, Denise J

Source: American journal of obstetrics and gynecology; Feb 2020

Publication Date: Feb 2020

Publication Type(s): Journal Article Review

PubMedID: 32105680

URL: https://www.ajog.org/article/S0002-9378(20)30197-6/fulltext

Abstract: Coronavirus Disease 2019 (COVID-19) is an emerging disease with a rapid increase in cases and deaths since its first identification in Wuhan, China, in December 2019. Limited data are available about COVID-19 during pregnancy; however, information on illnesses associated with other highly pathogenic coronaviruses (i.e., severe acute respiratory syndrome (SARS) and the Middle East respiratory syndrome (MERS)) might provide insights into COVID-19's effects during pregnancy.

Database: Medline

16. Potential Maternal and Infant Outcomes from (Wuhan) Coronavirus 2019-nCoV Infecting Pregnant Women: Lessons from SARS, MERS, and Other Human Coronavirus Infections.

Author(s): Schwartz, David A; Graham, Ashley L

Source: Viruses; Feb 2020; vol. 12 (no. 2)

Publication Date: Feb 2020

Publication Type(s): Journal Article

PubMedID: 32050635

Available at Viruses - from Europe PubMed Central - Open Access

Available at Viruses - from Free Medical Journals . com

Available at Viruses - from Unpaywall

Abstract: In early December 2019 a cluster of cases of pneumonia of unknown cause was identified in Wuhan, a city of 11 million persons in the People's Republic of China. Further investigation revealed these cases to result from infection with a newly identified coronavirus, termed the 2019-nCoV. The infection moved rapidly through China, spread to Thailand and Japan, extended into adjacent countries through infected persons travelling by air, eventually reaching multiple countries and continents. Similar to such other coronaviruses as those causing the Middle East respiratory syndrome (MERS) and severe acute respiratory syndrome (SARS), the new coronavirus was reported to spread via natural aerosols from human-to-human. In the early stages of this epidemic the case fatality rate is estimated to be approximately 2%, with the majority of deaths occurring in special populations. Unfortunately, there is limited experience with coronavirus infections during pregnancy, and it now appears certain that pregnant women have become infected during the present 2019-nCoV epidemic. In order to assess the potential of the Wuhan 2019-nCoV to cause maternal, fetal and neonatal morbidity and other poor obstetrical outcomes, this communication reviews the published data addressing the epidemiological and clinical effects of SARS, MERS, and other coronavirus infections on pregnant women and their infants. Recommendations are also made for the consideration of pregnant women in the design, clinical trials, and implementation of future 2019-nCoV vaccines.

Database: Medline

17. Chinese expert consensus on the perinatal and neonatal management for the prevention and control of the 2019 novel coronavirus infection (First edition).

Author(s): Wang, Laishuan; Shi, Yuan; Xiao, Tiantian; Fu, Jianhua; Feng, Xing; Mu, Dezhi; Feng, Qi; Hei, Mingyan; Hu, Xiaojing; Li, Zhankui; Lu, Guoping; Tang, Zezhong; Wang, Yajuan; Wang, Chuanqing; Xia, Shiwen; Xu, Jianqing; Yang, Yujia; Yang, Jie; Zeng, Mei; Zheng, Jun; Zhou, Wei; Zhou, Xiaoyu; Zhou, Xiaoguang; Du, Lizhong; Lee, Shoo K; Zhou, Wenhao; Working Committee on Perinatal and Neonatal Management for the Prevention and Control of the 2019 Novel Coronavirus Infection

Source: Annals of translational medicine; Feb 2020; vol. 8 (no. 3); p. 47

Publication Date: Feb 2020

Publication Type(s): Journal Article Review

PubMedID: 32154287

Available at Annals of translational medicine - from Europe PubMed Central - Open Access

Abstract: Since December 2019, there has been an outbreak of novel coronavirus (2019-nCoV) infection in China. Two cases of neonates with positive 2019-nCoV tests have been reported. Due to the immature immune system and the possibility of vertical transmission from mother to infant, neonates have become a high-risk group susceptible to 2019-nCoV, which emphasize a close cooperation from both perinatal and neonatal pediatrics. In neonatal intensive care unit (NICU), to prevent and control infection, there should be practical measures to ensure the optimal management of children potentially to be infected. According to the latest 2019-nCoV national management plan and the actual situation, the Chinese Neonatal 2019-nCoV expert working Group has put forward measures on the prevention and control of neonatal 2019-nCoV infection.

Database: Medline

18. Management strategies of neonatal jaundice during the coronavirus disease 2019 outbreak.

Author(s): Ma XL; Chen Z; Zhu JJ; Shen XX; Wu MY; Shi LP; Du LZ; Fu JF; Shu Q

Source: World journal of pediatrics : WJP; Feb 2020

Publication Date: Feb 2020

Publication Type(s): Journal Article; Review

PubMedID: 32112336

Available at World journal of pediatrics : WJP - from SpringerLink - Medicine

Available at World journal of pediatrics : WJP - from Free Medical Journals . com

Available at World journal of pediatrics : WJP - from Unpaywall

Abstract: The outbreak of coronavirus disease 2019 (COVID-19; formally known as 2019-nCoV) has become a most challenging health emergency. Owing to rigorous quarantine and control measures taken in China, routine neonatal health surveillance and follow-up have become challenging. Without follow-up surveillance, some rapid and progressive newborn diseases, such as bilirubin encephalopathy, may be ignored. The characteristics of onset age of kernicterus suggest that monitoring of bilirubin level at home provides a useful way to alert hospital visits and to prevent the development of extremely hyperbilirubinemia. Therefore, we developed an online follow-up program for convenient monitoring of bilirubin level of newborns that is based on our practical experiences. The aim is to make our management strategies of neonatal jaundice tailored to the infection prevention and control during the COVID-19 epidemic.

Database: PubMed

19. Clinical analysis of 10 neonates born to mothers with 2019-nCoV pneumonia.

Author(s): Zhu, Huaping; Wang, Lin; Fang, Chengzhi; Peng, Sicong; Zhang, Lianhong; Chang, Guiping; Xia, Shiwen; Zhou, Wenhao

Source: Translational pediatrics; Feb 2020; vol. 9 (no. 1); p. 51-60

Publication Date: Feb 2020

Publication Type(s): Journal Article

PubMedID: 32154135

Available at Translational pediatrics - from Europe PubMed Central - Open Access

Abstract: BackgroundThe newly identified 2019-nCoV, which appears to have originated in Wuhan, the capital city of Hubei province in central China, is spreading rapidly nationwide. A number of cases of neonates born to mothers with 2019-nCoV pneumonia have been recorded. However, the clinical features of these cases have not been reported, and there is no sufficient evidence for the proper prevention and control of 2019-nCoV infections in neonates.MethodsThe clinical features and outcomes of 10 neonates (including 2 twins) born to 9 mothers with confirmed 2019-nCoV infection in 5 hospitals from January 20 to February 5, 2020 were retrospectively analyzed.ResultsAmong these 9 pregnant women with confirmed 2019-nCoV infection, onset of clinical symptoms occurred before delivery in 4 cases, on the day of delivery in 2 cases, and after delivery in 3 cases. In most cases, fever and a cough were the first symptoms experienced, and 1 patient also had diarrhea. Of the newborns born to these mothers, 8 were male and 2 were female; 4 were full-term infants and 6 were born premature; 2 were small-for-gestational-age (SGA) infants and 1 was a large-for-gestational-age (LGA) infant; there were 8 singletons and 2 twins. Of the neonates, 6 had a Pediatric Critical Illness Score (PCIS) score of less than 90. Clinically, the first symptom in the neonates was shortness of breath (n=6), but other initial symptoms such as fever (n=2), thrombocytopenia accompanied by abnormal liver function (n=2), rapid heart rate (n=1), vomiting (n=1), and pneumothorax (n=1) were observed. Up to now, 5 neonates have been cured and discharged, 1 has died, and 4 neonates remain in hospital in a stable condition. Pharyngeal swab specimens were collected from 9 of the 10 neonates 1 to 9 days after birth for nucleic acid amplification tests for 2019-nCoV, all of which showed negative results.ConclusionsPerinatal 2019-nCoV infection may have adverse effects on newborns, causing problems such as fetal distress, premature labor, respiratory distress, thrombocytopenia accompanied by abnormal liver function, and even death. However, vertical transmission of 2019-nCoV is yet to be confirmed.

Database: Medline

Strategy 826553

#	Database	Search term	Results
1	Medline	("covid-19").ti,ab	527
2	Medline	(Coronavirus).ti,ab	10112
3	Medline	("SARS-COV-2").ti,ab	180
4	Medline	(1 OR 2 OR 3)	10426
5	Medline	(pregnan*).ti,ab	483815
6	Medline	exp PREGNANCY/	883911
7	Medline	exp "PREGNANCY COMPLICATIONS"/	422511
8	Medline	exp "PREGNANCY OUTCOME"/	87916
9	Medline	(newborn OR neonat*).ti,ab	350071
10	Medline	exp "INFANT, NEWBORN"/	598319
11	Medline	(5 OR 6 OR 7 OR 8 OR 9 OR 10)	1560487
12	Medline	(4 AND 11)	539
13	Medline	(3 AND 11)	7
14	Medline	(labor OR labour).ti,ab	97885
15	Medline	exp "LABOR, OBSTETRIC"/	45722
16	Medline	(14 OR 15)	122046
17	Medline	(4 AND 16)	9
18	PubMed	("covid-19").ti,ab	666
19	PubMed	(Coronavirus).ti,ab	15535

20	PubMed	("SARS-COV-2").ti,ab	247
21	PubMed	(18 OR 19 OR 20)	15825
22	PubMed	(pregnancy OR pregnant OR infant OR neonate OR newborn OR labour OR labor).ti,ab	3188170
23	PubMed	(21 AND 22)	1470
24	PubMed	("severe acute respiratory syndrome coronavirus 2").ti,ab	124
25	PubMed	(22 AND 24)	12
26	Medline	("severe acute respiratory syndrome coronavirus 2").ti,ab	46
27	Medline	(coronavirus ADJ2 2019).ti,ab	424
28	Medline	(sars2).ti,ab	7
29	Medline	(26 OR 27 OR 28)	449
30	Medline	(11 AND 29)	16
31	EMBASE	("covid-19").ti,ab	296
32	EMBASE	(Coronavirus).ti,ab	10928
33	EMBASE	("SARS-COV-2").ti,ab	121
34	EMBASE	("severe acute respiratory syndrome coronavirus 2").ti,ab	28
35	EMBASE	(coronavirus ADJ2 2019).ti,ab	308
36	EMBASE	(sars2).ti,ab	14
37	EMBASE	(31 OR 32 OR 33 OR 34 OR 35 OR 36)	11114
38	EMBASE	(pregnan*).ti,ab	619992
39	EMBASE	exp PREGNANCY/	652572

40	EMBASE	exp "PREGNANCY COMPLICATIONS"/	120037
41	EMBASE	exp "PREGNANCY OUTCOME"/	57585
42	EMBASE	(newborn OR neonat*).ti,ab	430507
43	EMBASE	exp NEWBORN/	518957
44	EMBASE	exp "NEWBORN MORBIDITY"/ OR exp "NEWBORN MORTALITY"/	19284
45	EMBASE	(38 OR 39 OR 40 OR 41 OR 42 OR 43 OR 44)	1456209
46	EMBASE	(37 AND 45)	538
47	EMBASE	(maternal).ti,ab	313446
48	EMBASE	(37 AND 47)	48
49	PubMed	(maternal).ti,ab	409490
50	PubMed	(21 AND 49)	119
51	Medline	(wuhan ADJ2 coronavirus).ti,ab	27
52	Medline	(11 AND 51)	1
53	Medline	("2019-nCoV").ti,ab	271
54	Medline	(11 AND 53)	9
55	PubMed	("2019-nCoV").ti,ab	327
56	PubMed	(22 AND 55)	21
57	EMBASE	("2019-nCoV").ti,ab	242
59	EMBASE	("2019-nCoV").ti,ab	242
61	EMBASE	(37 AND 57)	192

62	EMBASE	(45 AND 59)	7