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Date: 5 May 2020
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Covid-19 and Preterm Delivery

See full search strategy

1. Coronavirus disease 2019 (COVID-19) in pregnant women: A report based on 116 cases.

Author(s): Yan, Jie; Guo, Juanjuan; Fan, Cuifang; Juan, Juan; Yu, Xuechen; Li, Jiafu; Feng, Ling; Li, Chunyan; Chen, Huijun; Qiao, Yuan; Lei, Di; Wang, Chen; Xiong, Guoping; Xiao, Fengyi; He, Wencong; Pang, Qiumei; Hu, Xiaoling; Wang, Suqing; Chen, Dunjin; Zhang, Yuanzhen; Poon, Liona C; Yang, Huixia

Source: American journal of obstetrics and gynecology; Apr 2020

Publication Date: Apr 2020

Publication Type(s): Journal Article

PubMedID: 32335053

Available at American journal of obstetrics and gynecology - from Unpaywall

Abstract:BACKGROUNDThe coronavirus disease 2019 (COVID-19), caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), is a global public health emergency. Data on the effect of COVID-19 in pregnancy are limited to small case series.OBJECTIVESTo evaluate the clinical characteristics and outcomes in pregnancy and the vertical transmission potential of SARS-CoV-2 infection.STUDY DESIGN: Clinical records were retrospectively reviewed for 116 pregnant women with COVID-19 pneumonia from 25 hospitals in China between January 20 and March 24, 2020. Evidence of vertical transmission was assessed by testing for SARS-CoV-2 in amniotic fluid, cord blood, and neonatal pharyngeal swab samples.RESULTSThe median gestational age on admission was 38+0 (IQR 36+0-39+1) weeks. The most common symptoms were fever (50.9%, 59/116) and cough (28.4%, 33/116); 23.3% (27/116) patients presented without symptoms. Abnormal radiologic findings were found in 96.3% (104/108) of cases. There were eight cases (6.9%, 8/116) of severe pneumonia but no maternal deaths. One of eight patients (1/8) that presented in the first- and early-second-trimester had a missed spontaneous abortion. Twenty-one of 99 patients (21.2%, 21/99) that had delivered had preterm birth, including six with preterm premature ruptured of membranes. The rate of spontaneous preterm birth before 37 weeks was 6.1% (6/99). There was one case of severe neonatal asphyxia that resulted in neonatal death. Eighty-six of the 100 neonates that had testing for SARS-CoV-2 had negative results, of these ten neonates had paired amniotic fluid and cord blood samples that were tested negative for SARS-CoV-2.CONCLUSIONSSARS-CoV-2 infection during pregnancy is not associated with an increased risk of spontaneous abortion and spontaneous preterm birth. There is no evidence of vertical transmission of SARS-CoV-2 infection when the infection manifests during the third-trimester of pregnancy.

Database: Medline

2. Delivery in pregnant women infected with SARS-CoV-2: A fast review.

Author(s): Parazzini, Fabio; Bortolus, Renata; Mauri, Paola Agnese; Favilli, Alessandro; Gerli, Sandro; Ferrazzi, Enrico

Source: International journal of gynaecology and obstetrics: the official organ of the International Federation of Gynaecology and Obstetrics; Apr 2020

Publication Date: Apr 2020

Publication Type(s): Journal Article Review

PubMedID: 32271947

Abstract:BACKGROUNDFew case reports and clinical series exist on pregnant women infected with SARS-CoV-2 who delivered.OBJECTIVETo review the available information on mode of delivery, vertical/peripartum transmission, and neonatal outcome in pregnant women infected with SARS-CoV-2.SEARCH STRATEGYCombination of the following key words: COVID-19, SARS-CoV-2, and pregnancy in Embase and PubMed databases.SELECTION CRITERIAPapers reporting cases of women infected with SARS-CoV-2 who delivered.DATA COLLECTION AND ANALYSISThe following was extracted: author; country; number of women; study design; gestational age at delivery; selected clinical maternal data; mode of delivery; selected neonatal outcomes.MAIN RESULTSIn the 13 studies included, vaginal delivery was reported in 6 cases (9.4%; 95% CI, 3.5-19.3). Indication for cesarean delivery was worsening of maternal conditions in 31 cases (48.4%; 95% CI, 35.8-61.3). Two newborns testing positive for SARS-CoV-2 by real-time RT-PCR assay were reported. In three neonates, SARS-CoV-2 IgG and IgM levels were elevated but the RT-PCR test was negative.CONCLUSIONSThe rate of vertical or peripartum transmission of SARS-CoV-2 is low, if any, for cesarean delivery; no data are available for vaginal delivery. Low frequency of spontaneous preterm birth and general favorable immediate neonatal outcome are reassuring.

Database: Medline

3. 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

4. Risks of Novel Coronavirus Disease (COVID-19) in Pregnancy; a Narrative Review.

Author(s): Panahi, Latif; Amiri, Marzieh; Pouy, Somaye

Source: Archives of academic emergency medicine; 2020; vol. 8 (no. 1); p. e34

Publication Date: 2020

Publication Type(s): Journal Article Review

PubMedID: 32232217

Available at Archives of academic emergency medicine - from PubMed

Abstract: IntroductionThe outbreak of the new Coronavirus in China in December 2019 and subsequently in various countries around the world has raised concerns about the possibility of vertical transmission of the virus from mother to fetus. The present study aimed to review published literature in this regard.MethodsIn this narrative review, were searched for all articles published in various databases including PubMed, Scopus, Embase, Science Direct, and Web of Science using MeSH-compliant keywords including COVID-19, Pregnancy, Vertical transmission, Coronavirus 2019, SARS-CoV-2 and 2019-nCoV from December 2019 to March 18, 2020 and reviewed them. All type of articles published about COVID-19 and vertical transmission in pregnancy were included.ResultsA review of 13 final articles published in this area revealed that COVID-19 can cause fetal distress, miscarriage, respiratory distress and preterm delivery in pregnant women but does not infect newborns. There has been no report of vertical transmission in pregnancy, and it has been found that clinical symptoms of COVID-19 in pregnant women are not different from those of non-pregnant women.ConclusionOverall, due to lack of appropriate data about the effect of COVID-19 on pregnancy, it is necessary to monitor suspected pregnant women before and after delivery. For confirmed cases both the mother and the newborn child should be followed up comprehensively.

Database: Medline

5. 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; May 2020; vol. 222 (no. 5); p. 415-426

Publication Date: May 2020

Publication Type(s): Journal Article Review

PubMedID: 32105680

Available at American Journal of Obstetrics and Gynecology - from Unpaywall

Abstract: Coronavirus disease 2019 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 coronavirus disease 2019 during pregnancy; however, information on illnesses associated with other highly pathogenic coronaviruses (ie, severe acute respiratory syndrome and the Middle East respiratory syndrome) might provide insights into coronavirus disease 2019's effects during pregnancy. Coronaviruses cause illness ranging in severity from the common cold to severe respiratory illness and death. Currently the primary epidemiologic risk factors for coronavirus disease 2019 include travel from mainland China (especially Hubei Province) or close contact with infected individuals within 14 days of symptom onset. Data suggest an incubation period of ~5 days (range, 2-14 days). Average age of hospitalized patients has been 49-56 years, with a third to half with an underlying illness. Children have been rarely reported. Men were more frequent among hospitalized cases (54-73%). Frequent manifestations include fever, cough, myalgia, headache, and

diarrhea. Abnormal testing includes abnormalities on chest radiographic imaging, lymphopenia, leukopenia, and thrombocytopenia. Initial reports suggest that acute respiratory distress syndrome develops in 17-29% of hospitalized patients. Overall case fatality rate appears to be ~1%; however, early data may overestimate this rate. In 2 reports describing 18 pregnancies with coronavirus disease 2019, all were infected in the third trimester, and clinical findings were similar to those in nonpregnant adults. Fetal distress and preterm delivery were seen in some cases. All but 2 pregnancies were cesarean deliveries and no evidence of in utero transmission was seen. Data on severe acute respiratory syndrome and Middle East respiratory syndrome in pregnancy are sparse. For severe acute respiratory syndrome, the largest series of 12 pregnancies had a case-fatality rate of 25%. Complications included acute respiratory distress syndrome in 4, disseminated intravascular coagulopathy in 3, renal failure in 3, secondary bacterial pneumonia in 2, and sepsis in 2 patients. Mechanical ventilation was 3 times more likely among pregnant compared with nonpregnant women. Among 7 first-trimester infections, 4 ended in spontaneous abortion. Four of 5 women with severe acute respiratory syndrome after 24 weeks' gestation delivered preterm. For Middle East respiratory syndrome, there were 13 case reports in pregnant women, of which 2 were asymptomatic, identified as part of a contact investigation; 3 patients (23%) died. Two pregnancies ended in fetal demise and 2 were born preterm. No evidence of in utero transmission was seen in severe acute respiratory syndrome or Middle East respiratory syndrome. Currently no coronavirus-specific treatments have been approved by the US Food and Drug Administration. Because coronavirus disease 2019 might increase the risk for pregnancy complications, management should optimally be in a health care facility with close maternal and fetal monitoring. Principles of management of coronavirus disease 2019 in pregnancy include early isolation, aggressive infection control procedures, oxygen therapy, avoidance of fluid overload, consideration of empiric antibiotics (secondary to bacterial infection risk), laboratory testing for the virus and coinfection, fetal and uterine contraction monitoring, early mechanical ventilation for progressive respiratory failure, individualized delivery planning, and a team-based approach with multispecialty consultations. Information on coronavirus disease 2019 is increasing rapidly. Clinicians should continue to follow the Centers for Disease Control and Prevention website to stay up to date with the latest information (https://www.cdc.gov/coronavirus/2019-nCoV/hcp/index.html).

Database: Medline

6. Coronavirus in pregnancy and delivery: rapid review.

Author(s): Mullins, E; Evans, D; Viner, R M; O'Brien, P; Morris, E

Source: Ultrasound in obstetrics & gynecology : the official journal of the International Society of Ultrasound in Obstetrics and Gynecology; May 2020; vol. 55 (no. 5); p. 586-592

Publication Date: May 2020

Publication Type(s): Journal Article Review

PubMedID: 32180292

Abstract:OBJECTIVESThere are limited case series reporting the impact on women affected by coronavirus during pregnancy. In women affected by severe acute respiratory syndrome (SARS) and Middle East respiratory syndrome (MERS), the case fatality rate appears higher in those affected in pregnancy compared with non-pregnant women. We conducted a rapid review to guide health policy and management of women affected by COVID-19 during pregnancy, which was used to develop the Royal College of Obstetricians and Gynaecologists' (RCOG) guidelines on COVID-19 infection in pregnancy.METHODSSearches were conducted in PubMed and MedRxiv to identify primary case reports, case series, observational studies and randomized controlled trials describing women affected by coronavirus in pregnancy. Data were extracted from relevant papers. This review has been used to develop guidelines with representatives of the Royal College of Paediatrics and Child Health (RCPCH) and RCOG who provided expert consensus on areas in which data were lacking.RESULTSFrom 9965 search results in PubMed and 600 in MedRxiv, 21 relevant studies, all of which were case reports or case series, were identified. From reports of 32 women to date affected by COVID-19 in pregnancy, delivering 30 babies (one set of twins, three ongoing pregnancies), seven (22%) were asymptomatic and two (6%) were admitted to the intensive care unit (ICU), one of whom remained on extracorporeal membrane oxygenation. No maternal deaths have been reported to date. Delivery was by Cesarean section in 27 cases and by vaginal delivery in two, and 15 (47%) delivered preterm. There was one stillbirth and one neonatal death. In 25 babies, no cases of vertical transmission were reported; 15 were reported as being tested with reverse transcription polymerase chain reaction after delivery. Case fatality rates for SARS and MERS were 15% and 27%, respectively. SARS was associated with miscarriage or intrauterine death in five cases, and fetal growth restriction was noted in two ongoing pregnancies affected by SARS in the third trimester.CONCLUSIONSSerious morbidity occurred in 2/32 women with COVID-19, both of whom required ICU care. Compared with SARS and MERS, COVID-19 appears less lethal, acknowledging the limited number of cases reported to date and that one woman remains in a critical condition. Preterm delivery affected 47% of women hospitalized with COVID-19, which may put considerable pressure on neonatal services if the UK's reasonable worst-case scenario of 80% of the population being affected is realized. Based on this review, RCOG, in consultation with RCPCH, developed guidance for delivery and neonatal care in pregnancies affected by COVID-19, which recommends that delivery mode be determined primarily by obstetric indication and recommends against routine separation of affected mothers and their babies. We hope that this review will be helpful for maternity and neonatal services planning their response to COVID-19. © 2020 The Authors. Ultrasound in Obstetrics & Gynecology published by John Wiley & Sons Ltd on behalf of the International Society of Ultrasound in Obstetrics and Gynecology.

Database: Medline

7. Successful Treatment of Preterm Labor in Association with Acute COVID-19 Infection.

Author(s): Browne, Paul C; Linfert, Jennifer B; Perez-Jorge, Emilio

Source: American journal of perinatology; Apr 2020

Publication Date: Apr 2020

Publication Type(s): Journal Article

PubMedID: 32330970

Available at American journal of perinatology - from Unpaywall

Abstract: Novel coronavirus disease 2019 (COVID-19) infection occurring during pregnancy is associated with an increased risk of preterm delivery. This case report describes successful treatment of preterm labor during acute COVID-19 infection. Standard treatment for preterm labor may allow patients with acute COVID-19 infection to recover without the need for preterm delivery. KEY POINTS: · Acute COVID-19 infection is associated with a high rate of preterm delivery.. · Standard treatment for preterm labor such as intravenous magnesium sulfate, antepartum steroid therapy and antibiotic prophylaxis for group B streptococcus infection were effective in this patient.. · In the absence of maternal or fetal compromise, acute COVID-19 infection is not an indication for early elective delivery..

Database: Medline

8. COVID-19 in pregnancy: risk of adverse neonatal outcomes.

Author(s): Mehan, Aman; Venkatesh, Ashwin; Girish, Milind

Source: Journal of medical virology; Apr 2020

Publication Date: Apr 2020

Publication Type(s): Letter

PubMedID: 32352576

Available at Journal of Medical Virology - from Wiley Online Library

Abstract: We read with great interest the study by Siyu Chen and colleagues. The authors evaluated the clinical features and outcomes of five pregnant patients with COVID-19 at term, whose delivery was uneventful and led to favorable perinatal outcomes for both mother and neonate. We would like to draw attention to a growing body of evidence that now points towards an under-addressed association between preterm maternal SARS-CoV-2 infection, preterm delivery and adverse neonatal outcomes, which is not reflected in Chen et al.'s small cohort. We also stress that vertical transmission, which was not tested for by Chen et al., should not be excluded as a potential mechanism for viral spread. Centers should therefore be meticulous in their approach to a SARS-CoV-2+ pregnancy to optimize clinical outcomes for both mother and child.

Database: Medline

9. COVID19 during pregnancy: a systematic review of reported cases.

Author(s): Della Gatta, Anna Nunzia; Rizzo, Roberta; Pilu, Gianluigi; Simonazzi, Giuliana

Source: American journal of obstetrics and gynecology; Apr 2020

Publication Date: Apr 2020

Publication Type(s): Journal Article Review

PubMedID: 32311350

Available at American journal of obstetrics and gynecology - from Unpaywall

Abstract:OBJECTIVEto conduct a systematic review of the outcomes reported for pregnant patients with COVID 19.DATA SOURCESwe searched electronically Pubmed, Cinahl, Scopus using combination of keywords "Coronavirus and/ or pregnancy"; "COVID and/or pregnancy"; "COVID disease and/or pregnancy"; "COVID pneumonia and/or pregnancy. There were no restriction of languages in order to collect as much cases as possible.STUDY ELIGIBILITY CRITERIAall pregnant women, with a COVID19 diagnosed with acid nucleic test, with reported data about pregnancy and, in case of delivery, reported outcomes.STUDY APPRAISAL AND SYNTHESIS METHODSall the studies included have been evaluated according the tool for evaluating the methodological quality of case reports and case series described by Murad et al. RESULTS: 6 studies including 51 women were eligible for the systematic review. Three pregnancies were ongoing at the time of the report; of the remaining 48, 46 were delivered with a cesarean section and 2 vaginally; there was 1 stillbirth and 1 neonatal death.CONCLUSIONSalthough vertical transmission of SARS-Cov2 has been excluded thus far and the outcome for mothers and fetuses has been generally good, the high rate of preterm cesarean delivery is a reason for concern. These interventions were typically elective, and it is reasonable to question whether they were warranted or not. COVID-19 associated with respiratory insufficiency in late pregnancies certainly creates a complex clinical scenario.

Database: Medline

10. Coronavirus disease 2019 (COVID-19) and pregnancy: a systematic review.

Author(s): Yang, Ziyi; Wang, Min; Zhu, Ziyu; Liu, Yi

Source: The journal of maternal-fetal & neonatal medicine : the official journal of the European Association of Perinatal Medicine, the Federation of Asia and Oceania Perinatal Societies, the International Society of Perinatal Obstetricians; Apr 2020 ; p. 1-4

Publication Date: Apr 2020

Publication Type(s): Journal Article

PubMedID: 32354293

Abstract: Objective: To summarize currently available evidence on maternal, fetal, and neonatal outcomes of pregnant women infected with Coronavirus Disease 2019 (COVID-19).Material and methods: PubMed, Google Scholar, CNKI, Wanfang Data, VIP, and CBMdisc were searched for studies reporting maternal, fetal, and neonatal outcomes of women infected with COVID-19 published from 1 January 2020 to 26 March 2020. The protocol was registered with the Open Science Framework (DOI: 10.17605/OSF.IO/34ZAV).Results: In total, 18 studies comprising 114 pregnant women were included in the review. Fever (87.5%) and cough (53.8%) were the most commonly reported symptoms, followed by fatigue (22.5%), diarrhea (8.8%), dyspnea (11.3%), sore throat (7.5%), and myalgia (16.3%). The majority of patients (91%) had cesarean delivery due to various indications. In terms of fetal and neonatal outcomes, stillbirth (1.2%), neonatal death (1.2%), preterm birth (21.3%), low birth weight (<2500 g, 5.3%), fetal distress (10.7%), and neonatal asphyxia (1.2%) were reported. There are reports of neonatal infection, but no direct evidence of intrauterine vertical transmission has been found.Conclusions: The clinical characteristics of

pregnant women with COVID-19 are similar to those of non-pregnant adults. Fetal and neonatal outcomes appear good in most cases, but available data only include pregnant women infected in their third trimesters. Further studies are needed to ascertain long-term outcomes and potential intrauterine vertical transmission.

Database: Medline

11. COVID-19 Obstetrics Task Force, Lombardy, Italy: executive management summary and short report of outcome

Author(s): Ferrazzi E.M.; Frigerio L.; Cetin I.; Vergani P.; Spinillo A.; Prefumo F.; Pellegrini E.; Gargantini G.

Source: International journal of gynaecology and obstetrics: the official organ of the International Federation of Gynaecology and Obstetrics; Apr 2020

Publication Date: Apr 2020

Publication Type(s): Article

PubMedID: 32267531

Available at International journal of gynaecology and obstetrics: the official organ of the International Federation of Gynaecology and Obstetrics - from Wiley Online Library

Available at International journal of gynaecology and obstetrics: the official organ of the International Federation of Gynaecology and Obstetrics - from Unpaywall

Abstract: From February 24, 2020, a COVID-19 obstetric task force was structured to deliver management recommendations for obstetric care. From March 1, 2020, six COVID-19 hubs and their spokes were designated. An interim analysis of cases occurring in or transferred to these hubs was performed on March 20, 2020 and recommendations were released on March 24, 2020. The vision of this strict organization was to centralize patients in high-risk maternity centers in order to concentrate human resources and personal protective equipment (PPE), dedicate protected areas of these major hospitals, and centralize clinical multidisciplinary experience with this disease. All maternity hospitals were informed to provide a protected labor and delivery room for nontransferable patients in advanced labor. A pre-triage based on temperature and 14 other items was developed in order to screen suspected patients in all hospitals to be tested with nasopharyngeal swabs. Obstetric outpatient facilities were instructed to maintain scheduled pregnancy screening as per Italian guidelines, and to provide pre-triage screening and surgical masks for personnel and patients for pre-triage-negative patients. Forty-two cases were recorded in the first 20 days of hub and spoke organization. The clinical presentation was interstitial pneumonia in 20 women. Of these, seven required respiratory support and eventually did well. Two premature labors occurred.

Database: EMBASE

12. Outcome of Coronavirus spectrum infections (SARS, MERS, COVID 1 -19) during pregnancy: a systematic review and meta-analysis.

Author(s): Di Mascio, Daniele; Khalil, Asma; Saccone, Gabriele; Rizzo, Giuseppe; Buca, Danilo; Liberati, Marco; Vecchiet, Jacopo; Nappi, Luigi; Scambia, Giovanni; Berghella, Vincenzo; D'Antonio, Francesco

Source: American journal of obstetrics & gynecology MFM; Mar 2020 ; p. 100107

Publication Date: Mar 2020

Publication Type(s): Journal Article Review

PubMedID: 32292902

Abstract: ObjectiveThe aim of this systematic review was to report pregnancy and perinatal outcomes of Coronavirus (CoV) spectrum infections, and particularly COVID-19 disease due to SARS-COV-2 infection during pregnancy.Data sourcesMedline, Embase, Cinahl and Clinicaltrials.gov databases were searched electronically utilizing combinations of word variants for "coronavirus" or "severe acute respiratory syndrome" or "SARS" or "Middle East respiratory syndrome" or "MERS" or "COVID-19" and "pregnancy". The search and selection criteria were restricted to English language.Study eligibility criteriaInclusion criteria were pregnant women with a confirmed Coronavirus related illness, defined as either SARS, MERS or COVID-19.Study appraisal and synthesis methodsWe used meta-analyses of proportions to combine data and reported pooled proportions. The pregnancy outcomes observed included miscarriage, preterm birth, pre-eclampsia, preterm prelabor rupture of membranes, fetal growth restriction, and mode of delivery. The perinatal outcomes observed were fetal distress, Apgar score < 7 at five minutes, neonatal asphyxia, admission to neonatal intensive care unit, perinatal death, and evidence of vertical transmission.Results19 studies including 79 women were eligible for this systematic review: 41 pregnancies (51.9%) affected by COVID-19, 12 (15.2%) by MERS, and 26 (32.9%) by SARS. An overt diagnosis of pneumonia was made in 91.8% and the most common symptoms were fever (82.6%), cough (57.1%) and dyspnea (27.0%). For all CoV infections, the rate of miscarriage was 39.1% (95% CI 20.2-59.8); the rate of preterm birth < 37 weeks was 24.3% (95% CI 12.5-38.6); premature prelabor rupture of membranes occurred in 20.7% (95% CI 9.5-34.9), preeclampsia in 16.2% (95% CI 4.2-34.1), and fetal growth restriction in 11.7% (95% CI 3.2-24.4); 84% were delivered by cesarean; the rate of perinatal death was 11.1% (95% CI 84.8-19.6) and 57.2% (95% CI 3.6-99.8) of newborns were admitted to the neonatal intensive care unit. When focusing on COVID-19, the most common adverse pregnancy outcome was preterm birth 90% of whom also had pneumonia, PTB is the most common adverse pregnancy outcome. Miscarriage, preeclampsia, cesarean, and perinatal death (7-11%) were also more common than in the general population. There have been no published cases of clinical evidence of vertical transmission. Evidence is accumulating rapidly, so these data may need to be updated soon. The findings from this study can guide and enhance prenatal counseling of women with COVID-19 infection occurring during pregnancy.

Database: Medline

13. Maternal and neonatal outcomes of pregnant women with COVID-19 pneumonia: a case-control study.

Author(s): Li, Na; Han, Lefei; Peng, Min; Lv, Yuxia; Ouyang, Yin; Liu, Kui; Yue, Linli; Li, Qiannan; Sun, Guoqiang; Chen, Lin; Yang, Lin

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: 32249918

Abstract:BACKGROUNDThe ongoing epidemics of coronavirus disease 2019 (COVID-19) have caused serious concerns about its potential adverse effects on pregnancy. There are limited data on maternal and neonatal outcomes of pregnant women with COVID-19 pneumonia.METHODSWe conducted a case-control study to compare clinical characteristics, maternal and neonatal outcomes of pregnant women with and without COVID-19 pneumonia.RESULTSDuring January 24 to February 29, 2020, there were sixteen pregnant women with confirmed COVID-19 pneumonia and eighteen suspected cases who were admitted to labor in the third trimester. Two had vaginal delivery and the rest took cesarean section. Few patients presented respiratory symptoms (fever and cough) on admission, but most had typical chest CT images of COVID-19 pneumonia. Compared to the controls, COVID-19 pneumonia patients had lower counts of white blood cells (WBC), neutrophils, C-reactive protein (CRP), and alanine aminotransferase (ALT) on admission. Increased levels of WBC, neutrophils, eosinophils, and CRP were found in postpartum blood tests of pneumonia patients. There were three (18.8%) and three (16.7%) of the mothers with confirmed or suspected COVID-19 pneumonia had preterm delivery due to maternal complications, which were significantly higher than the control group. None experienced respiratory failure during hospital stay. COVID-19 infection was not found in the newborns and none developed severe neonatal complications.CONCLUSIONSevere maternal and neonatal complications were not observed in pregnant women with COVID-19 pneumonia who had vaginal delivery or caesarean section. Mild respiratory symptoms of pregnant women with COVID-19 pneumonia highlight the need of effective screening on admission.

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

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

Strategy 847476

#	Database	Search term	Results
1	Medline	("covid 19" OR Covid19 OR "covid 2019").ti,ab	6986
2	Medline	("novel coronavirus*").ti,ab	1701
3	Medline	("SARS-CoV-2" OR "2019-nCoV").ti,ab	2244
4	Medline	("SARS-CoV2").ti,ab	75
5	Medline	(SARS2 OR "severe acute respiratory syndrome coronavirus 2").ti,ab	593
6	Medline	("Wuhan seafood market pneumonia virus*").ti,ab	2
7	Medline	(Wuhan ADJ2 coronavirus*).ti,ab	56
8	Medline	(coronavirus ADJ2 2019).ti,ab	1883
9	Medline	(1 OR 2 OR 3 OR 4 OR 5 OR 6 OR 7 OR 8)	8671
10	Medline	((preterm OR premature OR "pre term") ADJ2 (labour OR labor OR birth* OR childbirth OR delivery)).ti,ab	43438
11	Medline	exp "OBSTETRIC LABOR, PREMATURE"/	25908
12	Medline	(10 OR 11)	51419
13	Medline	(9 AND 12)	16
14	Medline	exp CORONAVIRUS/	12916
15	Medline	(12 AND 14)	1

16	EMBASE	("covid 19" OR Covid19 OR "covid 2019").ti,ab	5715
17	EMBASE	("novel coronavirus*").ti,ab	1638
18	EMBASE	("SARS-CoV-2" OR "2019-nCoV").ti,ab	1955
19	EMBASE	("SARS-CoV2").ti,ab	64
20	EMBASE	(SARS2 OR "severe acute respiratory syndrome coronavirus 2").ti,ab	507
21	EMBASE	("Wuhan seafood market pneumonia virus*").ti,ab	1
22	EMBASE	(Wuhan ADJ2 coronavirus*).ti,ab	26
23	EMBASE	(coronavirus ADJ2 2019).ti,ab	1650
24	EMBASE	exp "SARS-RELATED CORONAVIRUS"/	6352
25	EMBASE	(16 OR 17 OR 18 OR 19 OR 20 OR 21 OR 22 OR 23 OR 24)	11651
26	EMBASE	((preterm OR premature OR "pre term") ADJ2 (labour OR labor OR birth* OR childbirth OR delivery)).ti,ab	59639
27	EMBASE	exp "PREMATURE LABOR"/	45071
28	EMBASE	(26 OR 27)	72860
29	EMBASE	(25 AND 28)	19
30	PubMed	("covid 19" OR Covid19 OR "covid 2019").ti,ab	8606
31	PubMed	("novel coronavirus*").ti,ab	1890
32	PubMed	("SARS-CoV-2" OR "2019-nCoV").ti,ab	3012

33	PubMed	("SARS-CoV2").ti,ab	118
34	PubMed	(SARS2 OR "severe acute respiratory syndrome coronavirus 2").ti,ab	2262
35	PubMed	("Wuhan seafood market pneumonia virus").ti,ab	2
37	PubMed	(coronavirus).ti,ab	20391
38	PubMed	(30 OR 31 OR 32 OR 33 OR 34 OR 35 OR 37)	24755
39	PubMed	(premature OR "pre term" OR preterm).ti,ab	214240
40	PubMed	(labor OR labour OR childbirth OR birth OR delivery).ti,ab	2072594
41	PubMed	(38 AND 39 AND 40)	28
42	Medline	exp "FETAL MEMBRANES, PREMATURE RUPTURE"/	7211
43	Medline	((preterm OR premature) ADJ2 "rupture of membrane*").ti,ab	4567
44	Medline	(PROM).ti,ab	2720
45	Medline	(42 OR 43 OR 44)	10927
46	Medline	(9 AND 45)	1
47	EMBASE	exp "PREMATURE FETUS MEMBRANE RUPTURE"/	10080
48	EMBASE	((preterm OR premature) ADJ2 "rupture of membrane*").ti,ab	6698
49	EMBASE	(PROM).ti,ab	4490
50	EMBASE	(47 OR 48 OR 49)	15413
51	EMBASE	(25 AND 50)	1

52	PubMed	(PROM).ti,ab	15081
53	PubMed	(premature OR premature).ti,ab	187877
54	PubMed	(membrane rupture).ti,ab	1624
55	PubMed	(53 AND 54)	479
56	PubMed	(52 OR 55)	15190
57	PubMed	(38 AND 56)	2