

Infection & conséquences pour la grossesse

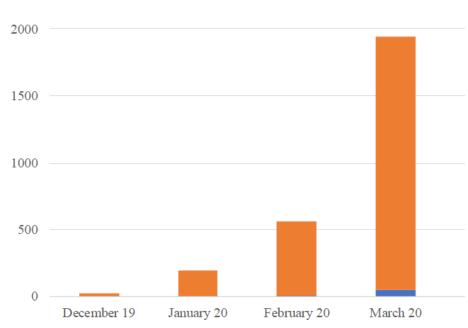
David Baud Lausanne, Suisse



Vrai aujourd'hui Faux demai.

PUBLICATIONS

Number of publication for Cov-2, Zika virus and HIV

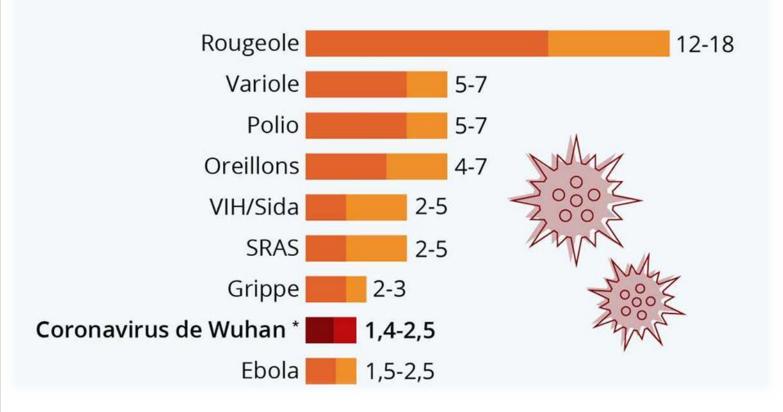


- Number of publication for "coronavirus 2 OR SARS-Cov2 OR COVID-19" on PubMed
- ■Number of publication for "(coronavirus 2 OR SARS-Cov2 OR COVID-19) and (pregnancy OR pregnant)" on PubMed

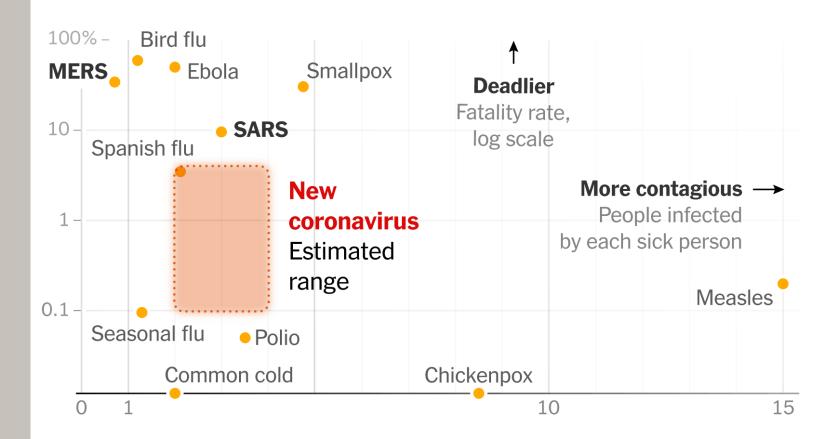
RO

Quelle est la contagiosité du coronavirus ?

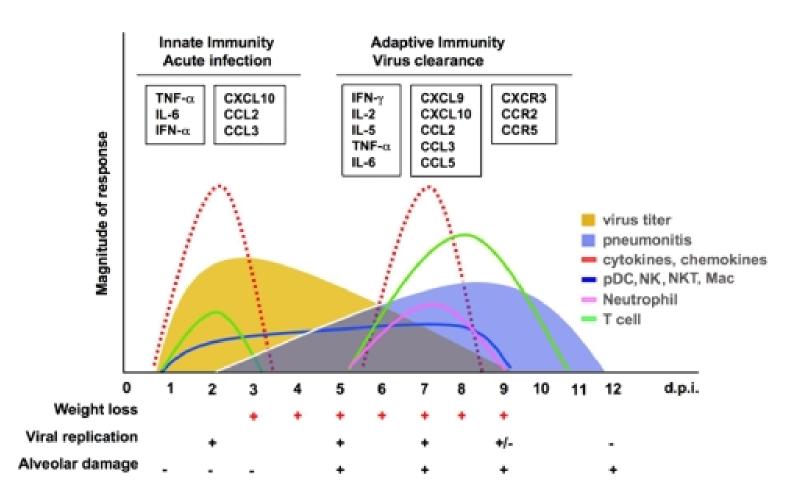
Nombre moyen de personnes auxquelles un malade risque de transmettre la maladie



R0 / MORTALITÉ



AU 7E JOUR...



SYMPTOMES

Characteristics of and Important Lessons From the Coronavirus Disease 2019 (COVID-19) Outbreak in China Summary of a Report of 72 314 Cases From the Chinese Center for Disease Control and Prevention

Spectrum of disease (N = 44415)

- Mild: 81% (36 160 cases)
- Severe: 14% (6168 cases)
- Critical: 5% (2087 cases)

Case-fatality rate

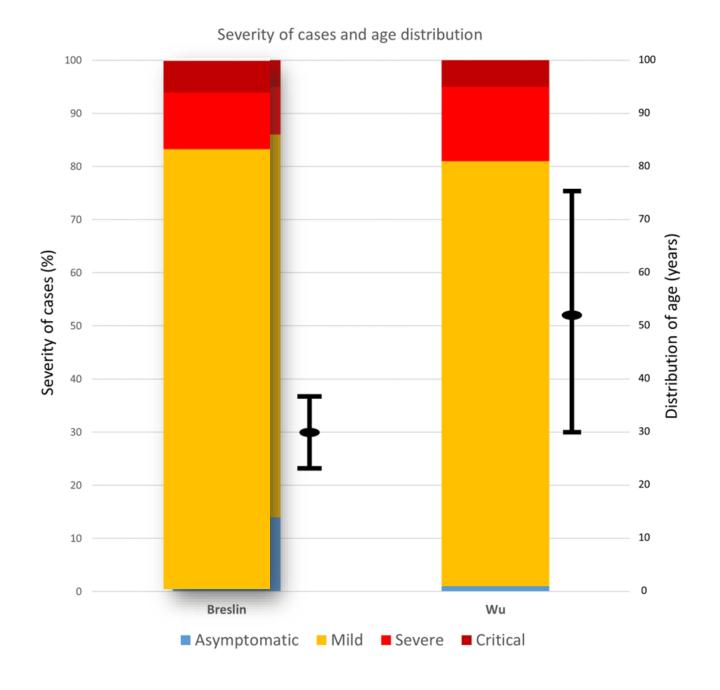
2.3% (1023 of 44 672 confirmed cases)

Health care personnel infected

- 3.8% (1716 of 44 672)
- 63% in Wuhan (1080 of 1716)
- 14.8% cases classified as severe or critical (247 of 1668)
- 5 deaths



GROSSESSE



ISSUES



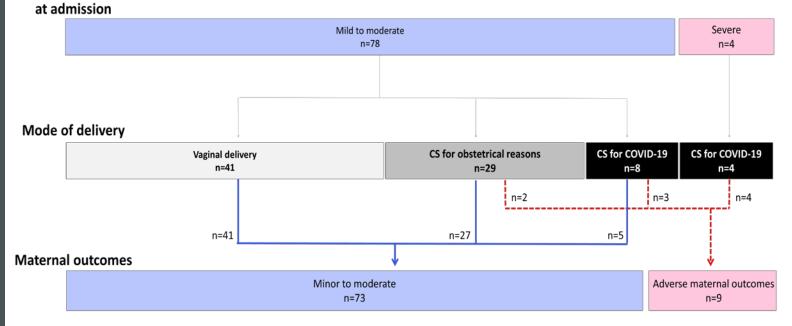
Outcome	Pooled proportions (95% CI)
PTB <37 weeks	24.30 (12.5-38.6)
PTB <34 weeks	21.79 (12.5-32.9)
PE	16.21 (4.2-34.1)
PPROM	20.72 (9.5-34.9)
FGR	11.66 (3.2-24.4)
Miscarriage	39.08 (20.2-59.8)
Cesarean delivery	83.91 (73.8-91.9)

Outcome	Pooled proportions (95% CI)
Fetal distress	34.15 (20.3-49.5)
Apgar score < 7	6.08 (1.3-13.9)
Neonatal asphyxia	0 (0-15.7)
Admission to NICU	57.16 (3.6-99.8)
Perinatal death	11.11 (84.8-19.6)
Vertical transmission	0 (0-10.7)

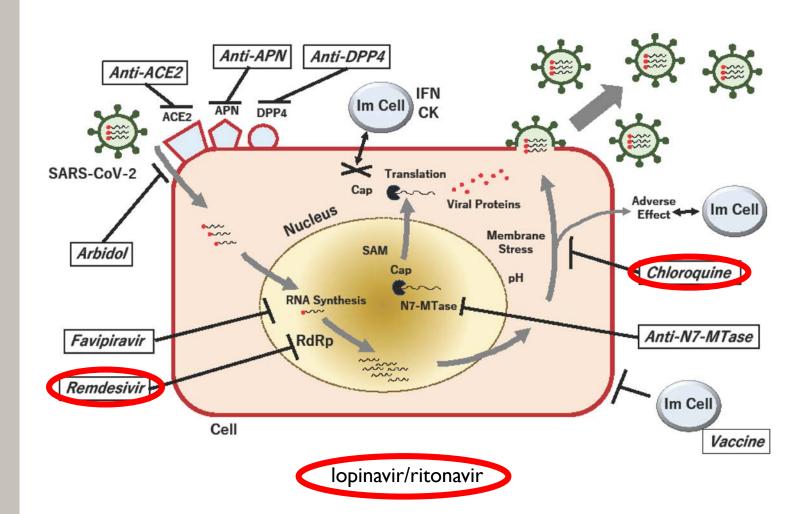


International COVID-19 and Pregnancy Registry

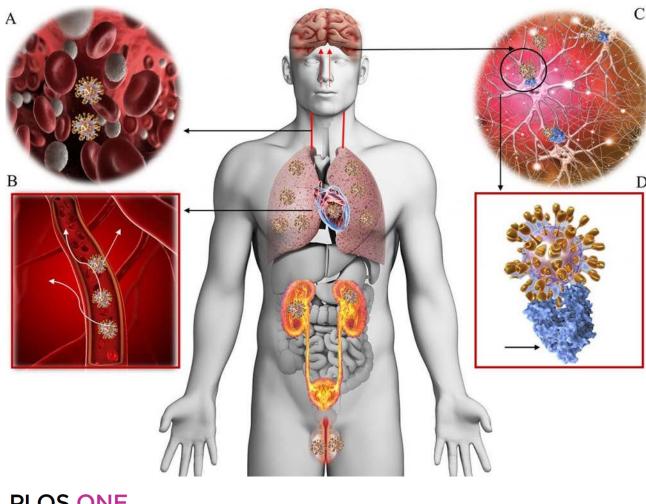
Maternal symptoms



CYCLE & TRAITEMENTS



RECEPTEUR ACE2



PLOS ONE

RESEARCH ARTICLE

The SARS-CoV-2 receptor ACE2 expression of maternal-fetal interface and fetal organs by single-cell transcriptome study

Mengmeng Li¹, Liang Chen², Jingxiao Zhang³, Chenglong Xiong^{2,4}, Xiangjie Li₀³







Can SARS-CoV-2 Infection Be Acquired In Utero? More Definitive Evidence Is Needed

David W. Kimberlin, MD; Sergio Stagno, MD

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IVIOTE DETITITIVE EVIGENCE IS INEEGED.

RESEARCH LETTER

Possible Vertical Transmission of SARS-CoV-2 From an Infected Mother to Her Newborn

Time	Laboratory test	Value	Reference range
Feb 22	White blood cell count, ×10 ⁹ /L	18.08	3.5-9.5
	SARS-CoV-2 IgG, AU/mL	140.32	<10
	SARS-CoV-2 IgM, AU/mL	45.83	<10
Feb 24	PCR of nasopharyngeal swab	-	-
Feb 27	PCR of nasopharyngeal swab	-	-
Mar 1	PCR of nasopharyngeal swab	-	-
Mar 6	PCR of nasopharyngeal swab	-	-
Mar 7	SARS-CoV-2 IgG, AU/mL	69.94	<10
	SARS-CoV-2 IgM, AU/mL	11.75	<10
Mar 9	PCR of nasopharyngeal swab	-	-

RESEARCH LETTER

Antibodies in Infants Born to Mothers With COVID-19 Pneumonia

Clinical value	Reference range	1	2	3	4	5	6
IgM, AU/mL	<10	39.6	16.25	3.79	1.9	0.96	0.16
IgG, AU/mL	<10	125.5	113.91	75.49	73.19	51.38	7.25





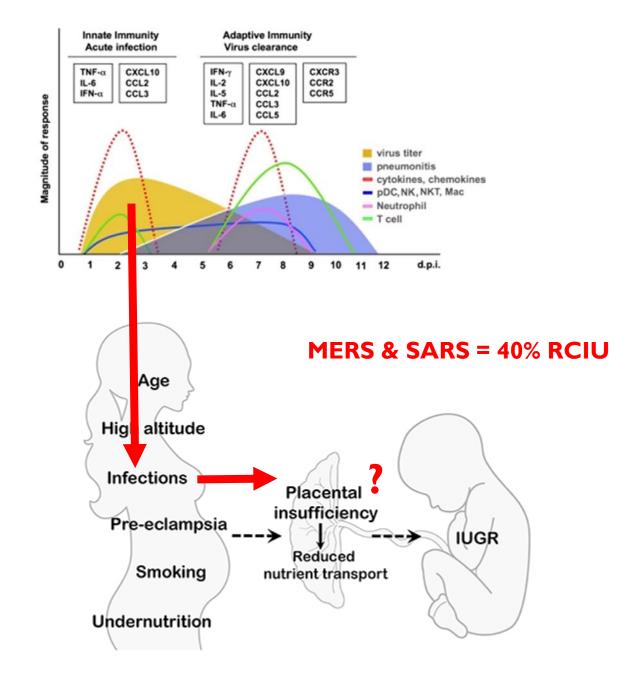


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IVIOTE DETITITIVE EVIDENCE IS INEEDED





TAKE HOME MESSAGE



Comme la population générale... de 50-60 ans



Plus de CS (détresse fœtale), prémat, RCIU



Pas de transmission verticale Mais...

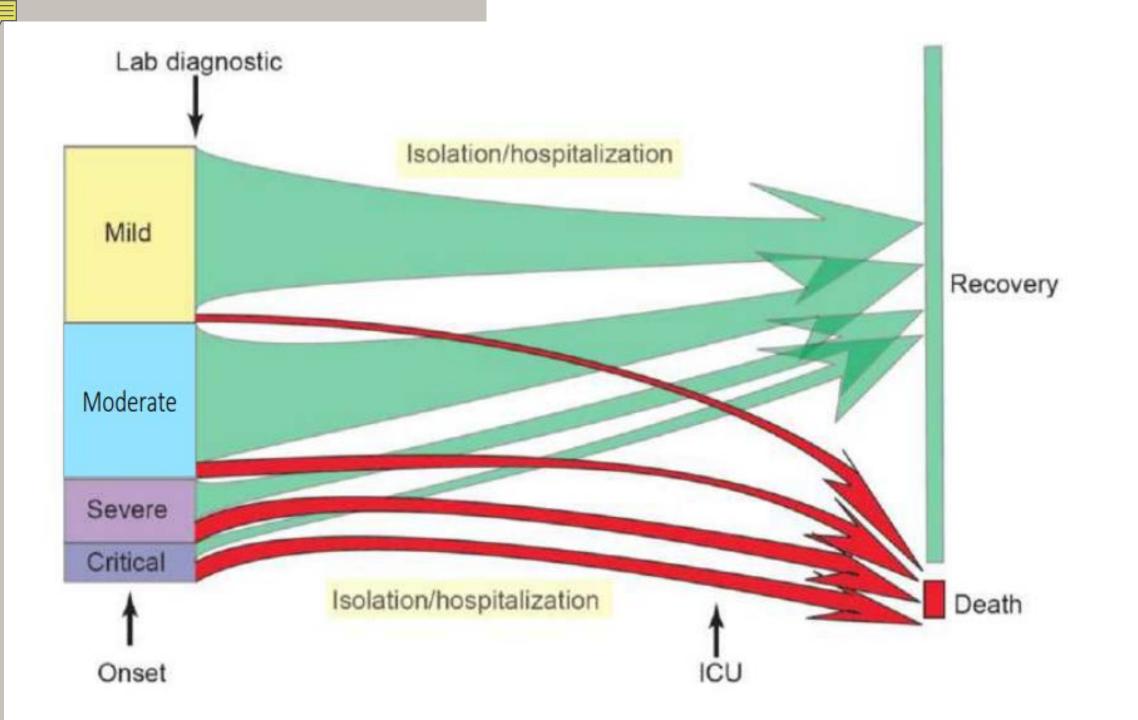
APRÈS

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canable of couring advages clinical outcomes						tions in pregnancy indicate that these agents are
capatile of causing adverse clinical outcomes.						capable of causing adverse clinical outcomes.



Supplementary Table 6. Details on perinatal deaths

Author	Year	Type of CoV	Details on perinatal deaths
Zhu	2020	Sars-CoV-2	1 Neonatal death: The baby was delivered at a gestational age of 34+5 weeks and admitted 30 minutes after delivery due to shortness of breath and moaning. Eight days later, he developed refractory shock, multiple organ failure, and disseminated intravascular coagulation, which were treated by the transfusion of platelets, suspended red blood cells, and plasma; he died on the 9th day.
Liu	2020	Sars-CoV-2	1 stillbirth, no other available details
Assiri	2016	Mers-CoV	1 stillbirth: At 34 weeks, the mother complained shortness of breath since 3 days and was admitted for elevated blood pressure and 3+ proteinuria consistent with preeclampsia, and pneumonia was diagnosed by means of chest radiography. Fetal heart tones were absent, and intrauterine fetal demise was suspected. A stillborn infant was delivered the same day. 1 neonatal death: At 24 weeks gestation, the mother presented to the hospital on 23 October with cough and myalgia, and chest radiography at admission showed a right lower lobe opacity. Her respiratory status deteriorated during hospitalization, and she was admitted to the ICU on 28 October for ARDS requiring intubation and mechanical ventilation. On 31 October, the patient delivered a 240-gram infant by cesarean delivery. The infant died 4 hours after birth.
Payne	2015	Mers-CoV	1 stillbirth: During the outbreak period, the mother's acute respiratory symptoms (fever, rhinorrhea, fatigue, headache, and cough) occurred concurrently with vaginal bleeding and abdominal pain on the seventh day of illness, and she spontaneously delivered a stillborn infant.



	Congenital in	fection with intrauterine fetal death /stillbirth
Fetal tissues or	Confirmed	Detection of the virus by PCR from fetal or placental tissue or
autopsy material		electron microscopic detection of viral particle in tissue or viral
		growth in culture from fetal or placental tissue
	Possible	Detection of the virus by PCR in surface swab from fetus or
		placental swab on fetal side
	Unlikely	Detection of the virus by PCR in surface swab from maternal side
		of placenta only and no testing done or no detection of the virus by
		PCR from fetal or placental tissue
	Not infected	No detection of the virus by PCR or by electron microscopy in fetal
		tissue(s) on autopsy
	Con	genital infection in live born neonate
Clinical features	Confirmed	Detection of the virus by PCR in umbilical cord blood ^b or neonatal
of infection in		blood collected within first 12 hours of birth or amniotic fluid
newborn and		collected prior to rupture of membrane ^c
mother with	Probable	Detection of the virus by PCR in nasopharyngeal swab at birth

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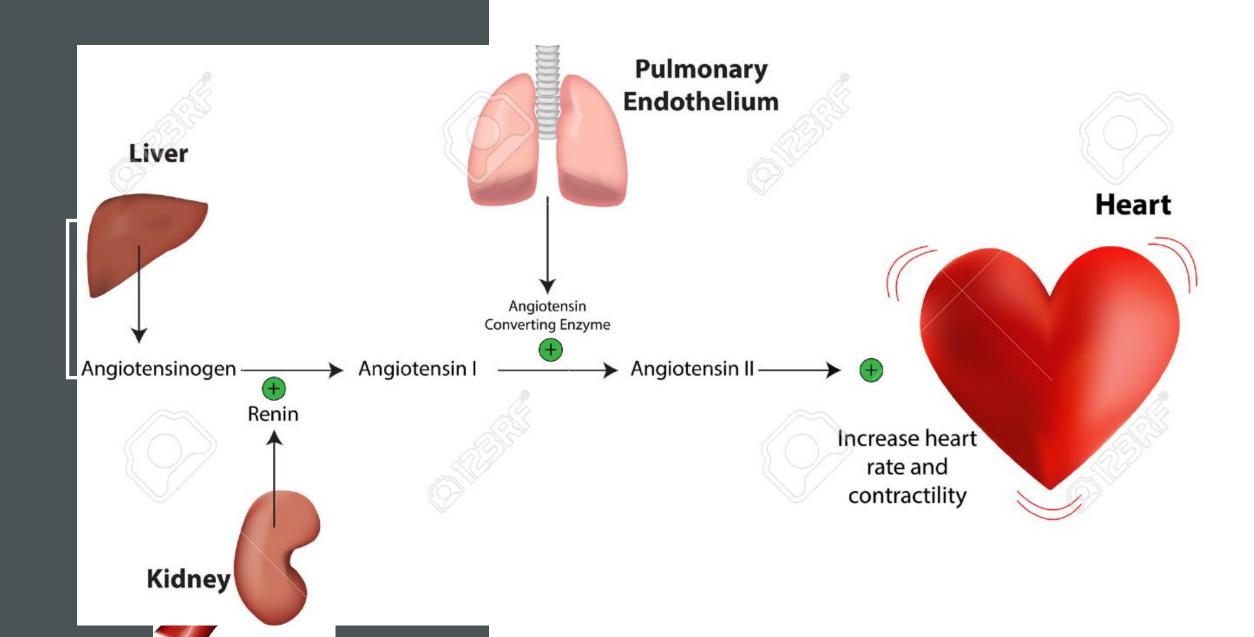
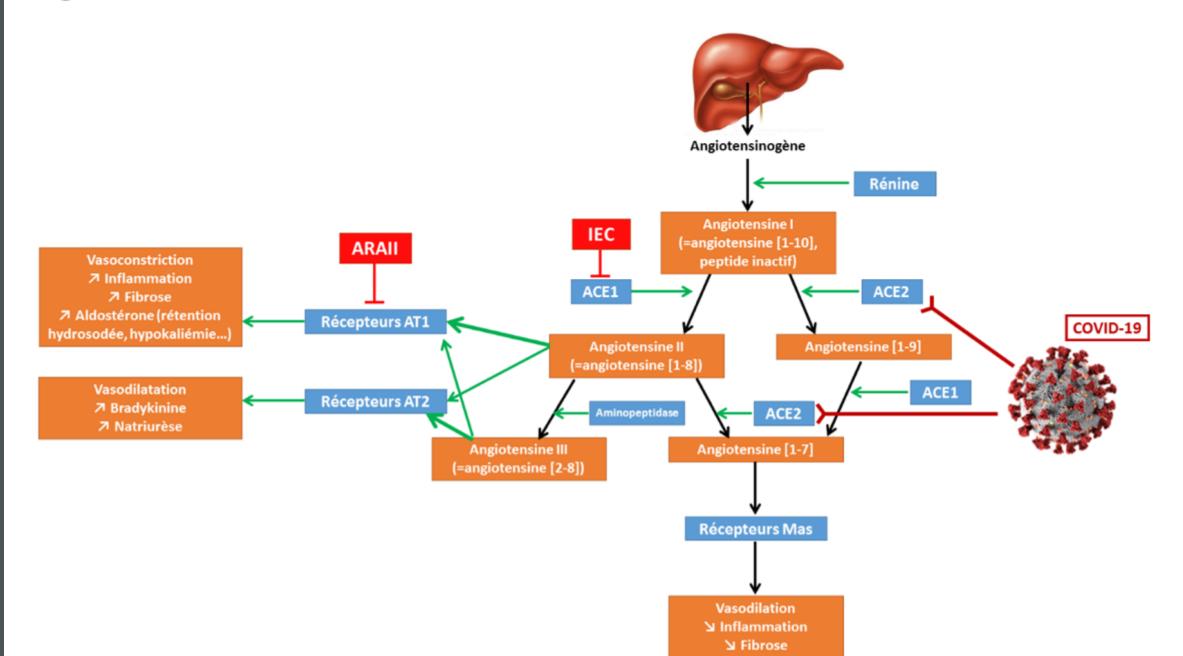




Figure 2



Author	Year	Country	Title	Key Finding
Chen et al. (12)	2020	China	Clinical characteristics and intrauterine vertical	 COVID-19 in pregnant woman can cause fetal
			transmission potential of COVID-19 infection in	distress but does not infect newborns.
			nine pregnant women: a retrospective review of	
			medical records	
Chua et al. (18)	2020	China	From the frontlines of COVID-19-How prepared	 No evidence of intrauterine infection of
			are we as obstetricians: a commentary	COVID-19 caused by vertical transmission for
				fetus.
				o Infected or suspect mothers should refrain
				from breastfeeding.
				o All mothers infected with COVID-19 should be
				monitored carefully during pregnancy and after
				delivery.
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	Case reports					
	Chen H ¹³ , Liu Y ¹⁴ , Li Y ¹⁵ , Fan C ¹⁶ , Zhu H ¹⁷ , Wang S ¹⁸ , Chen S ¹⁹ , Zambrano LI ²⁰ , Wang X ²¹ Gidlöf	Lin H ²⁷ Zhang I ²⁸		Liu D ²⁹	Chen S ³⁰	Total
	S ²² , Yu N ²³ , Breslin N ²⁴ , Iqbal SN ²⁵ , Lee DH ²⁶ N=58	N=16	N=16	N=15	N=3	n/N (%)
Maternal Characteristics			1	1	-	
Age (years) (Mean ± SD)	31 ±4	30	29±3	32±5	30±6	
Gestational age in days (Mean ± SD)	253 ± 25	N/A	271 ± 10	224 ± 8	260±14	
Delivery Characteristics			1			
Total number of deliveries	50	6	16	11	3	86/108 (80%)
Patients not delivered at time of reporting of studies	8	10	0	4	0	22/108 (20%)
Delivery by cesarean section	44	6	16	10	3	79/86 (92%)
Vaginal delivery	6	0	0	1	0	7/86 (8%)

- 1	rading or dr. (20)	2020	Catalana	more corona mas assense (comis is) in preg	
1				nancy: What clinical recommendations to fol-	of COVID-19 in pregnant woman.
ı				low?	
ı					oAll mothers with COVID-19 should be moni-
ı					tored carefully.
Ī	Faver et al. (21)	2020	China	2019-nCoV epidemic: what about pregnancies?	oInfection with COVID-19 in pregnant women
1					can have adverse effects including miscarriage,
1					fetal growth restriction, and preterm birth or
1					death of the mother.
Ī	Schwartz et al. (22)	2020	China	Potential Maternal and Infant Outcomes from	 There is limited knowledge regarding coron-
1				Coronavirus 2019-nCoV (SARS-CoV-2) Infecting	avirus infections that occur during pregnancy.
1				Pregnant Women: Lessons from SARS, MERS,	
ı				and Other Human Coronavirus Infections	
1					o Previous experiences with coronavirus infec-
1					tions in pregnancy indicate that these agents are
ı					capable of causing adverse clinical outcomes.
•					



	Case reports	Case series				
	Chen H ¹³ , Liu Y ¹⁴ , Li Y ¹⁵ , Fan C ¹⁶ , Zhu H ¹⁷ , Wang S ¹⁸ , Chen S ¹⁹ , Zambrano LI ²⁰ , Wang X ²¹ Gidlöf	Liu H ²⁷	Zhang I ²⁸	Liu D ²⁹	Chen S ³⁰	Total
	S ²² , Yu N ²³ , Breslin N ²⁴ , Iqbal SN ²⁵ , Lee DH ²⁶ N=58	N=16	N=16	N=15	N=3	n/N (%)
Maternal Characteristics	-		•	1	+ +	
Age (years) (Mean ± SD)	31 ±4	30	29±3	32±5	30±6	
Gestational age in days (Mean ± SD)	253 ± 25	N/A	271 ± 10	224 ± 8	260±14	
Delivery Characteristics				1	<u> </u>	
Total number of deliveries	50	6	16	11	3	86/108 (80%)
Patients not delivered at time of reporting of studies	8	10	0	4	0	22/108 (20%)
Delivery by cesarean section	44	6	16	10	3	79/86 (92%)
Vaginal delivery	6	0	0	1	0	7/86 (8%)
Laboratory Characteristics						
Lymphocytopenia (<1x10 ⁹ /L)	18 ^a	9	N/A	12	1	40/68 (59%)
Elevated c-reactive protein concentration (mg/L)	19ь	13	N/A	10	3	45/64 (70%)
Confirmed SARS-CoV-2	58	16	16	15	3	108/108 (100%)
Other parameters	-	-		+		
Maternal mortality	0	0	0	0	0	0/108 (0%)
Maternal ICU admission	3	0	0	0	0	3/108 (3%)
Neonatal mortality	1°	0 d	0	O ^f	0	1/87 (1%)
Intrauterine fetal death	1°	0 d	0	0 ^f	0	1/87 (1%)
Vertical transmission	1 ^c	N/A	0 e	O ^f	0	1/75 (1%)

PUBLICATIONS

