Covid disease in pregnancy: is there an increased risk of severe disease ???

In this blog I would like to address several medical research papers that are cited again and again and supposedly come to the conclusion that Covid disease in pregnancy is more severe and therefore the Covid vaccination is recommended.

Research paper from Dashraat et al. from Juni 2020:

In the journal „Frauenarzt“ of April this year, the colleague Dudenhausen quotes this paper from Singapore in the sense that there are more complications, premature births and maternal deaths with covid diseases during pregnancy. Here the original with the relevant text passage and the citation reference marked in yellow:

Diagnostik und Therapie

COVID-19-Pandemie

Beratung der Schwangeren zur COVID-19-Impfung

J. W. Dudenhausen[1,2], A. Grünebaum[2], L. McCullough[2], F. A. Chervenak[2]

■ Die COVID-19-Pandemie hat eine weltweite Krise verursacht. Nachdem die ersten mRNA-Impfstoffe von BioNTech-Pfizer und Moderna zugelassen worden sind, ergibt sich für den feto-maternalen Mediziner die Frage, ob eine COVID-19-Immunisierung der Schwangeren empfohlen werden soll oder nicht.

Die Weltgesundheitsorganisation (WHO) sagt: „... Schwangere Frauen mit hohem Risiko einer SARS-CoV-2-Exposition (z. B. Gesundheitspersonal) oder Komorbiditäten, die das Risiko einer schweren Erkrankung erhöhen, können in Absprache mit ihrem Arzt geimpft werden ...“ (4)

täten. Es gibt Berichte über häufigere Komplikationen in der Schwangerschaft, erhöhtes Risiko von Frühgeburten und mütterliche Todesfälle (5). Vertikale Transmissionen von der Mutter zum Feten wurden berichtet. COVID-19-Infektionen können Plazentitis und histopathologsiche Abnormitäten hervorrufen (6).

When I read this, I obtained the original study published in the June 2020 in American Journal of Obstetrics & Gynecology (AJOG) by Dashraat et al of Singapore:

„**Coronavirus disease 2019 (COVID-19) pandemic and pregnancy“**

Special Report ajog.org

Coronavirus disease 2019 (COVID-19) pandemic and pregnancy

Pradip Dashraath, MBBS, MRCOG; Jing Lin Jeslyn Wong, MBBS, MRCOG; Mei Xian Karen Lim, MBBS, MRCOG; Li Min Lim, MBBS, MRCOG; Sarah Li, MBChB, MRCOG; Arijit Biswas, MD, FRCOG; Mahesh Choolani, PhD, FRCOG; Citra Mattar, MRANZCOG, PhD; Lin Lin Su, MBBS, MRCOG

Here you can find the original:

https://reader.elsevier.com/reader/sd/pii
/S0002937820303434?token=23E40ED06EF11B540A743A39E2F720776A48536AFFDE5F30EB5F71284EF725604DB7CB18261C2C406
originRegion=eu-west-1&originCreation=20211114142323

Since the study had already been submitted on 02-25-2020 and the covid illnesses worldwide only really started at that time, the question arises where the 55 pregnant women listed there came from. The fine print states that these were compiled from ten different Chinese studies and compared to SARS and MERS illnesses in 2002 and 2013. The severity of the illnesses were not clearified from the paper and they were not compared to a control group of, for example, all patients admitted with respiratory illnesses.

The study does not proof – as colleague Dudenhausen claims above – that there are „more frequent complications in pregnancy“. In the paper 55 pregnant women with positive PCR test and symptoms are compared with pregnant women who were ill with MERS or SARS.

No pregnant women with covid disease died, only one patient required ventilation, two suffered miscarriage, and five fetuses had growth retardation. Compared with MERS and SARS, the numbers for Covid were much lower. Only in preterm birth Covid pregnant women were significantly higher represented (43% compared with 27% and 25%).
So only preterm birth was increased and not the other risks as Dudenhausen claims. The study does not quote in which week the pregnant women were delivered, whether they had pre-existing conditions, were overweight, etc. And, as always, the control group is missing.

Study from Gurol-Urganci et al. from November 2021:

In the monthly magazine „Frauenarzt“, which almost every gynecologist in Germany receives, there is the following generalising headline in the short news in a recent issue: „**SARS-CoV-2 increases pregnancy and birth complications**„. The text, written by an unnamedauthor, describes as a brief summary the study by Gurol-Urganci et al. of London.

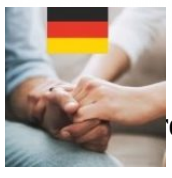
The title reads: „**Maternal and perinatal outcomes of pregnant women with SARS-CoV-2 infection at the time of birth in England: national cohort study**“.

Original Research ajog.org

OBSTETRICS

Maternal and perinatal outcomes of pregnant women with SARS-CoV-2 infection at the time of birth in England: national cohort study

Ipek Gurol-Urganci, PhD; Jennifer E. Jardine, MSc; Fran Carroll, PhD; Tim Draycott, FRCOG; George Dunn, BA; Alissa Fremeaux, MSc; Tina Harris, PhD; Jane Hawdon, PhD; Edward Morris, FRCOG; Patrick Muller, MSc; Lara Waite, MSc; Kirstin Webster, MSc; Jan van der Meulen, PhD; Asma Khalil, MRCOG, MD, MSc (Epi), DFSRH, Dip (GUM)



ead the English original:

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8135190/

The study included women who were pregnant with one child and had been hospitalized around the time of birth („birth episode“) between May 29, 2020 and January 31, 2021. Two groups were distinguished: the group with a positive PCR test for Covid and the second negative control group.

Study outcomes were:

– Fetal death

– Preterm birth (before 37 weeks of pregnancy)

– small for gestational age

– (Pre-) Eclampsia

– Induction of labour

– Birth mode

– Sspecialist neonatal care

– Maternal and neonatal length of stay (> 3 days)

– Neonatal readmission within 28 daysmaternal readmission within 42 days

In addition, the following criteria were recorded:

– pre-existing diabetes

– pre-existing hypertension

– socioeconomic deprivation (measured with the „Index of Multiple Deprivation“)

Actually, I could already stop going into more detail about this study after this listing. Why? Because only the positive PCR test was used as a criterion for an infection. A positive PCR test is only a laboratory result (which of course can also be false positive). It does not tell whether the person in question has symptoms, how severe they are, etc. Thus, two groups are compared here that differ only by a positive test result and not by a clinically manifested disease!

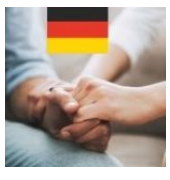
A positive PCR test is counted as a „case“ but says nothing about a disease and its severity! In other words:
„**Tested positive with PCR methodology does not necessarily mean infected, not necessarily infectious and certainly not diseased**“ (microbiologist Andreas Bermpohl in the newspaper, Gütersloh 26/27 September 2020).

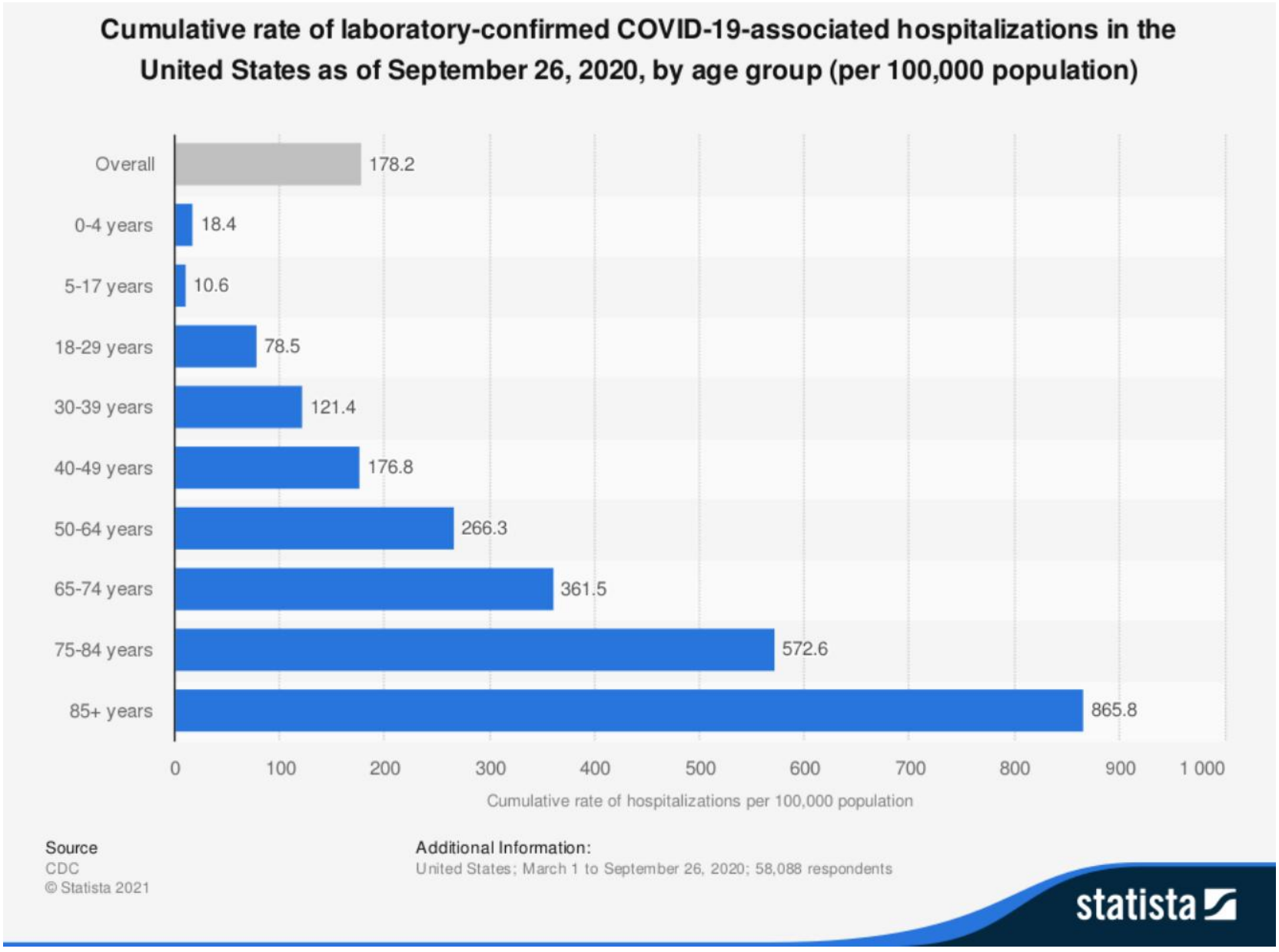
In order to be able to classify this somewhat better the following remarks:

Only 2% of people with a positive PCR test require inpatient treatment!

To proof thie statement, an official statistic of the CDC (Center for Disease Control and Prevention) from the USA, which differentiates the sum of patients (per hundred thousand) with positive PCR test, who were admitted to hospitals as inpatients from 01.03. – 26.09.2020, according to age groups. The top gray bar summarizes all age groups. The 178.2 listed there, extrapolated to 100,000, result in a percentage of less than 2%.

https://www.statista.com/statistics/1122354/covid-19-us-hospital-rate-by-age/





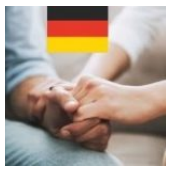
In other words, if the PCR test is positive, less than two percent of those affected are admitted to hospital. This is to illustrate that a **positive PCR test at hospital admission for birth means nothing at all**.

Nevertheless, back to the study. This already disproves the title of the study as incorrect, since it does not involve infected persons, but only those who tested positive.

A total of 342,080 women were enrolled in the study, of whom 3,527 had a positive PCR test. The pregnant women who tested positive were younger, of nonwhite ethnicity, first-time mothers, or lived in disadvantaged areas or had pre-existing conditions.

According to the study results, this group of patients suffered significantly more stillbirths and preterm deliveries, had more cases of (pre-) eclampsia, more emergency cesarean sections had to be performed, and had longer postpartum hospital stays.

In only half a sentence do Gurol-Urganci et al. indicate that they did not have information on the severity of Covid-19 disease or possess other important information, such as body mass index (body weight divided by height). Here is the paragraph from page 522.e7 right center column:



tion may also be a more generic consequence of severe maternal illness in pregnancy, given that women who become seriously unwell with other illnesses are known to be at a higher risk of perinatal morbidity and mortality.[32]

Our findings related to the characteristics of women infected with SARS-CoV-2, and associations with other complications including preeclampsia, preterm birth, cesarean delivery, and adverse neonatal outcomes concur with other studies in the United Kingdom and internationally.[1,4] Our results regarding length of stay and maternal readmissions are novel, but also relate to the context of care in England, where much of postnatal maternity care is provided in the community.[28]

Clinical and research implications

The finding that women with a recorded SARS-CoV-2 infection at the time of birth may have an increased risk of fetal death and other adverse maternal and perinatal outcomes concurs with a recent international case-control study[4] and will be of particular concern to pregnant women and healthcare professionals. The overall numbers of fetal deaths are too small to impact the overall national rate of stillbirth in the United Kingdom, as seen in provisional national

limited owing to the exclusion of pregnant women in clinical trials,[34] although trials are now underway to address this urgent need. This has motivated widespread hesitancy about recommendation of vaccination to all pregnant women, with governments and professional organizations initially recommending offering vaccination to pregnant women at high risk of either occupational exposure or severe disease[35] and pregnant women reluctant to take up a vaccine offer.[36] In the United States and Israel, where vaccination has been recommended to those at a higher risk, initial data provide a positive signal of safety and efficacy in pregnant women.[33,37,38] Further evidence of a link between SARS-CoV-2 infection and an increased risk of fetal death may motivate prioritization of, and encourage pregnant women to access, vaccination.

Strengths and limitations

The main strengths of this study are its large size and representative nature, covering almost the entire population of births in England during the time period. The use of HES data to understand maternity outcomes is well established and offers rich information about individual women to allow for adjustment for individual risk.[23]

preeclampsia.[41]

Although in our study we were able to adjust for many potential confounders, we had no information on the severity of COVID-19 illness or maternal body mass index in our dataset. Maternal obesity is a risk factor for both severe COVID-19 and fetal death.[1,42] Therefore, it is possible that the observed association could be partially accounted for by differences between groups of women.

Our results should be strictly interpreted as being related to the result of a test for SARS-CoV-2 at the time of birth, rather than to any infection which occurred during pregnancy. This is an important feature given that some of the observations in women who have a positive test result for SARS-CoV-2, especially the increases in the risk of stillbirth and preterm birth in women with a positive test, may be partly explained by variations in the rate of SARS-CoV-2 infection according to gestational age. This is different from other studies which seek to understand effects on women who are infected with SARS-CoV-2 at any point during their pregnancy and from studies which assess population risks of fetal death measuring both direct and indirect effects.[43–45]

One should not speak of disease in this context, but only of a positive test result. And this does not mean that the pregnant woman has symptoms. And it certainly does not mean that a positive test result has any negative effect on the pregnancy, the birth and the health for mother and child.

In addition, no information is available on other risks for stillbirths, premature births, and birth complication; or for possible drug use, insufficient function of the placenta, premature solution of the placenta, umbilical cord not or prolapse, anemia, maternal infections, malformations, fetal cardiac arrhythmias, etc.

I would additionally be interested in the vitamin D status in the blood, but this is hatdly ever investigated. A study with almost 200,000 participants shows that the lower the vitamin D level, the higher the rate of positive PCR test of SARS-CoV-2 is:

Here is a picture of it:

https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0239252

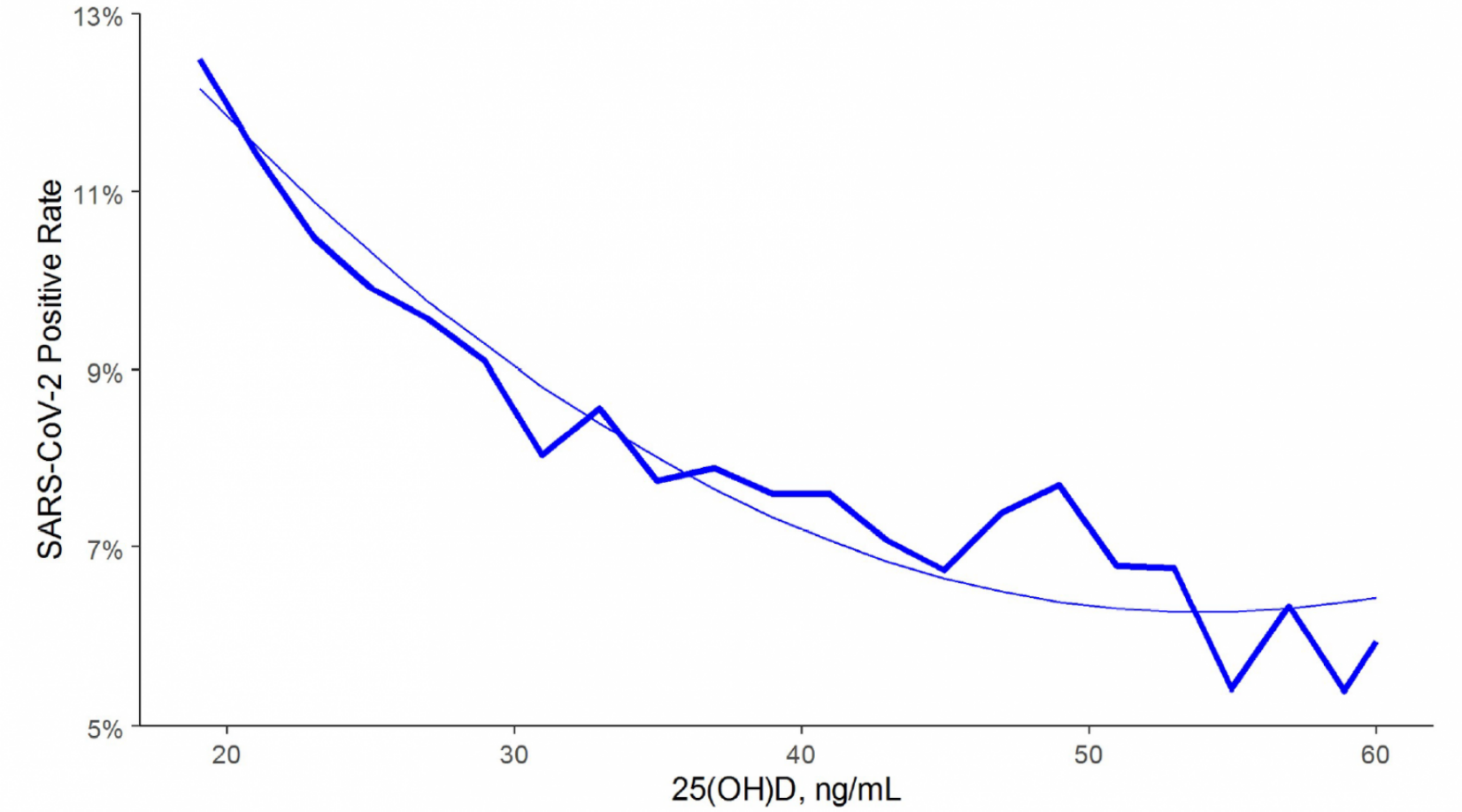


Fig 1. SARS-CoV-2 NAAT positivity rates and circulating 25(OH)D levels in the total population. Smooth line represents the weighted second order polynomial regression fit to the data associating circulating 25(OH)D levels (x) and SARS-CoV-2 positivity rates (y) where: $y = 0.2029–0.0052^{*}x + 4.8e\text{-}05^{*}x^{2}$; $R^{2} = 0.96$. SI conversion factor: 1 ng/mL = 0.400641 nmol/L.

https://doi.org/10.1371/journal.pone.0239252.g001

And since vitamin D deficiency is also an increased risk factor for preterm birth (Qin et al.: https://www.mdpi.com/2072-6643/8/5/301), other causes for a positive PCR test may be suspected.

In summary, I suspect that the positive test results were more likely to filter out pregnant women from lower income groups. To me, there is definitely a lack of evidence of increased risk of covid disease for pregnancy and childbirth. **A positive test does not mean disease**. In my medical opinion, I consider this study not only inconclusive, but even (intentionally) misleading.

This is clear from the authors‘ conclusion, which recommends that **pregnant women should be vaccinated as a priority**. Here in the original on page 522e8 left:

Conclusions

Our results demonstrate that women who have laboratory-confirmed infection with SARS-CoV-2 at the time of birth have higher rates of fetal death and preterm birth, preeclampsia and emergency cesarean delivery, and prolonged maternal and neonatal admission after birth than those without SARS-CoV-2 infection. There were no additional adverse neonatal outcomes, other than those related to preterm delivery. These findings should guide the counseling of pregnant women about risks of SARS-CoV-2 infection during pregnancy and indicate that pregnant women should be prioritized for vaccination.

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If it really turns out in the future that the gene-based vaccines pose a danger to mother and child – as I am still afraid of – then the authors Gurol-Urganci et al. would have contributed to much suffering.

I am happy to engage in professional discussions and also revise my expressed assessments, if I should be wrong.

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Unsere Sprechzeiten

Montag
Dienstag
Donnerstag
Freitag

Weitere Termine nach Vereinbarung