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What a difference a year makes! Anaesthesia for category 1 caesarean section during the COVID-19 pandemic

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Introduction

During the COVID-19 (SARS-CoV-2) global pandemic in 2020, the risk of viral transmission during aerosol generating procedures including tracheal intubation, led to new recommendations from national bodies regarding anaesthesia. The use of personal protective equipment (PPE) was introduced and use of regional (RA) rather than general anaesthesia (GA) was advocated in obstetrics and elsewhere. At a trust level we aimed to perform RA for caesarean section where possible and planned for early obstetric decision making in order to potentially reduce urgency. Obstetric and anaesthetic consultant presence was increased to facilitate this. We conducted a service evaluation to assess the impact of this change in practice for category 1 caesarean sections (CS), particularly upon mode and timing of anaesthesia.

Methods

We compared a 2 month period during the COVID-19 pandemic (1/4/20-31/5/20) with the same time period one year prior. We identified all women who had category 1 CS and reviewed the mode of anaesthesia, time from decision to arrival in theatre (transfer time), time from arrival to being ready for surgery to start (anaesthetic time), and neonatal APGAR scores. Mann whitney analysis was used to compare timings and Fishers exact test was used to compare number of procedures pre and during pandemic.

Results

The number of category 1 CS during the 2 month pandemic period was 24 out of a total of 399 CS (6%) compared with 18/337 CS (5.3%) pre-pandemic. There was a significant increase in the use of RA for category 1 CS during the pandemic compared to prior (83% vs. 39% p=0.004) (*Figure 1*). This included 5 epidural top-ups during COVID-19, compared with none prior. Prior to the pandemic, the median (IQR) anaesthetic time was longer for women having RA than GA (22 (17-29) vs. 9 (7-12) min) p 0.003. However during the pandemic period when compared to the previous year, there was a significant increase in time taken to perform GA (median (IQR) 14.5 (11-15) min, p 0.03) and a significant reduction in time taken to perform RA (median (IQR) 14 (10-19.5) min, p 0.02) (*Figure 2*). Transfer time was unchanged compared to pre-pandemic (median 7.5 vs. 7.0 min) (*Figure 3*). The 5min APGAR for RA was unchanged between the two time periods (median 10 for both) but the median APGAR score for GA was lower during the pandemic (7 vs. 9) although not significant.

Figure 1: Type of anaesthetic 2019 vs 2020

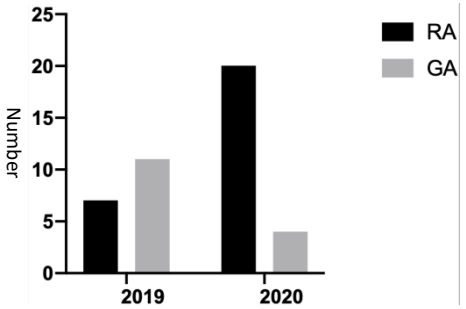


Figure 2: Anaesthetic time RA vs GA

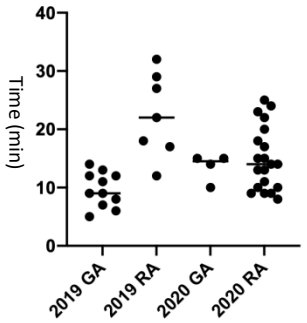
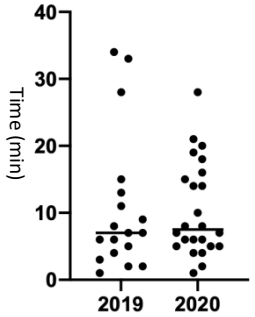


Figure 3: Transfer time



Discussion

Despite proposed early decision making, we did not observe a reduction in category 1 CS rate during the COVID-19 pandemic. Use of RA for category 1 CS increased significantly during the pandemic with spinal anaesthesia used most commonly alongside an increase in epidural top-ups. We observed a 'levelling out' of the anaesthetic time for RA (possibly shortened due to increased consultant presence) vs. GA (likely lengthened due to new procedures including donning PPE). The resulting lack of time difference between techniques during the pandemic supports the increased use of RA, as do the favourable APGAR scores for RA cases. The trend towards lower APGAR scores in the COVID GA group may reflect this being a more compromised group prior to anaesthesia, due to the higher threshold for performing GA.

References

1. Bampoe S, Odor PM, Lucas DN.Novel coronavirus SARS-CoV-2 and COVID-19. Practice recommendations for obstetric anaesthesia: what have we learned thus far. IJOA 2020; 43:1-8.