

## **Emergency caesarean section, time of day affects use of anaesthetic technique.**

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*Introduction:* Emergency caesarean section (ECS) are associated with rapid recognition, communication and notice. It requires high readiness at all hours. A critical part of executing ECS are rapid and safe anaesthesia with minimal risk for mother and foetus.

*Aims:* The primary aim was to investigate whether time of day affects use of anaesthetic technique during ECS. Secondly, this study compares anaesthetic time, operation times, postop times and neonatal outcome, APGAR score, for the neonate at one, five and ten minutes for different anaesthetic techniques used.

*Material and Methods:* A register based cohort of ECS at Danderyds hospital from January 2016 to December 2018. Information was extracted from Swedish perioperative register (**SPOR**) regarding anaesthesia and from Obstetrix regarding APGAR.

*Results:* There was 640 ECS in the primary analysis. Distribution of anaesthetic technique varied over the three time periods. Proportion general anaesthesia (GA) and topped up epidural (tEDA) altered significant; tEDA decreased and GA increased during evening and night hours ( $p=0.026$ ). Use of spinal blockage (SPA) was continuous. GA had significant shorter time to establish anaesthesia than regional anaesthesia (RA) ( $p<0.001$ ). APGAR below seven were more common among GA.

*Conclusions:* Time of day affects anaesthetic use during ECS. Use of tEDA decreased and use of GA increased during evening and night hours (16–08). GA was the fastest anaesthetic technique but had lowest median APGAR score. There was no difference in APGAR between SPA and tEDA. Further studies are needed to clarify causes to varied anaesthetic use over the day.

*Keywords:* emergency caesarean section (ESC), anaesthetic technique, time factors.