

INVESTIGATION OF POSTOPERATIVE PAIN AND PLASMA ENDOCANNABINOID LEVELS FOLLOWING CAESAREAN SECTION

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Introduction:

- Endocannabinoids are involved in the regulation of pain, mood and anxiety (Finn et al 2010)
- Lower segmental caesarean section (LSCS) rate: 27.6% (range 19.1 to 38%, Aims et al 2015)
- Failure to adequately control acute pain can lead to chronic pain (Nikolajsen et al 2006)
- Understanding these mechanisms can contribute to the discovery of biomarkers and new therapeutic interventions

Hypothesis : Increased depression, anxiety + reduced endocannabinoids (ECs) → Higher post-operative pain

Methods:

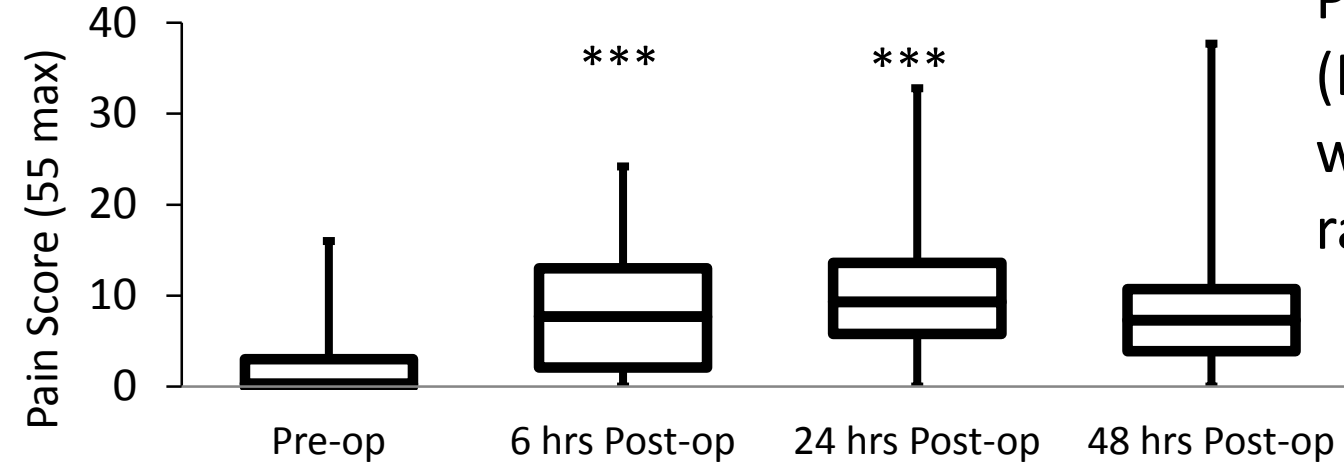
- 29 Women, first time, elective LSCS
 - Mean Age 36 (range 23 to 49)
- Pre-op and Post-op questionnaires
 - Pain, anxiety, depression
- Pre-op and post-op analysis of ECs in plasma
 - assayed with LC-MS/MS

Pre-op pain versus Post-op Pain

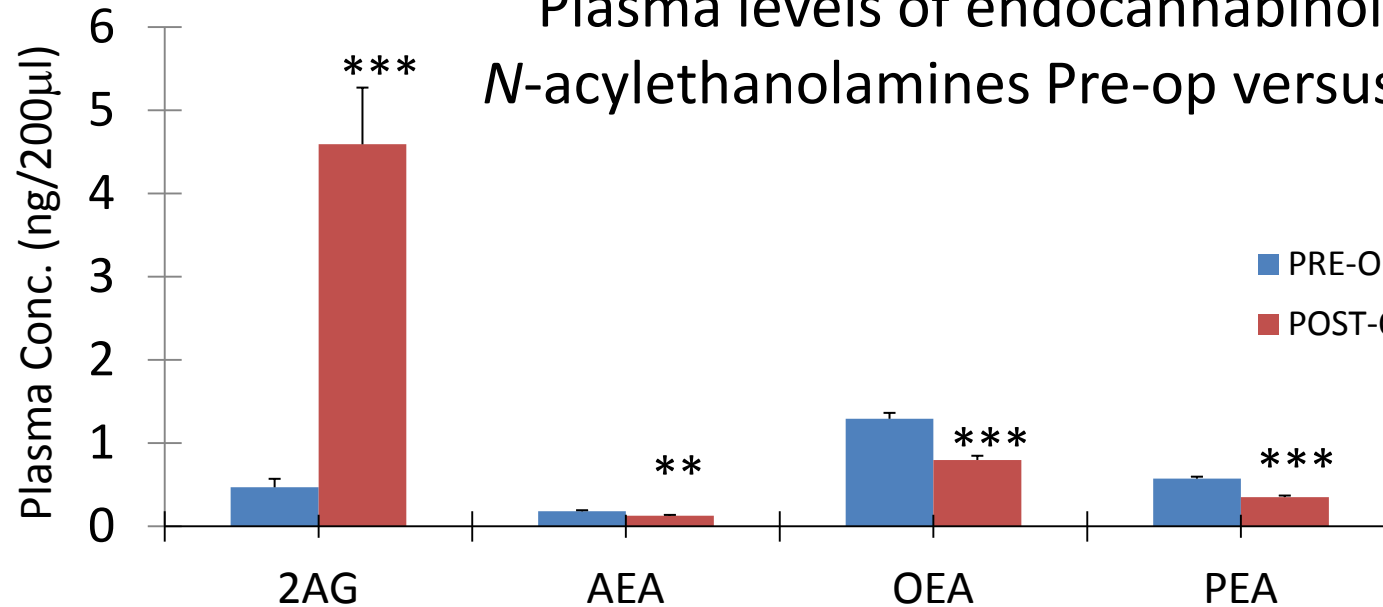
*** $p < 0.0001$ vs

Pre-op

(Data are Median with Inter-quartile range and range)



Plasma levels of endocannabinoids and *N*-acylethanolamines Pre-op versus Post-op



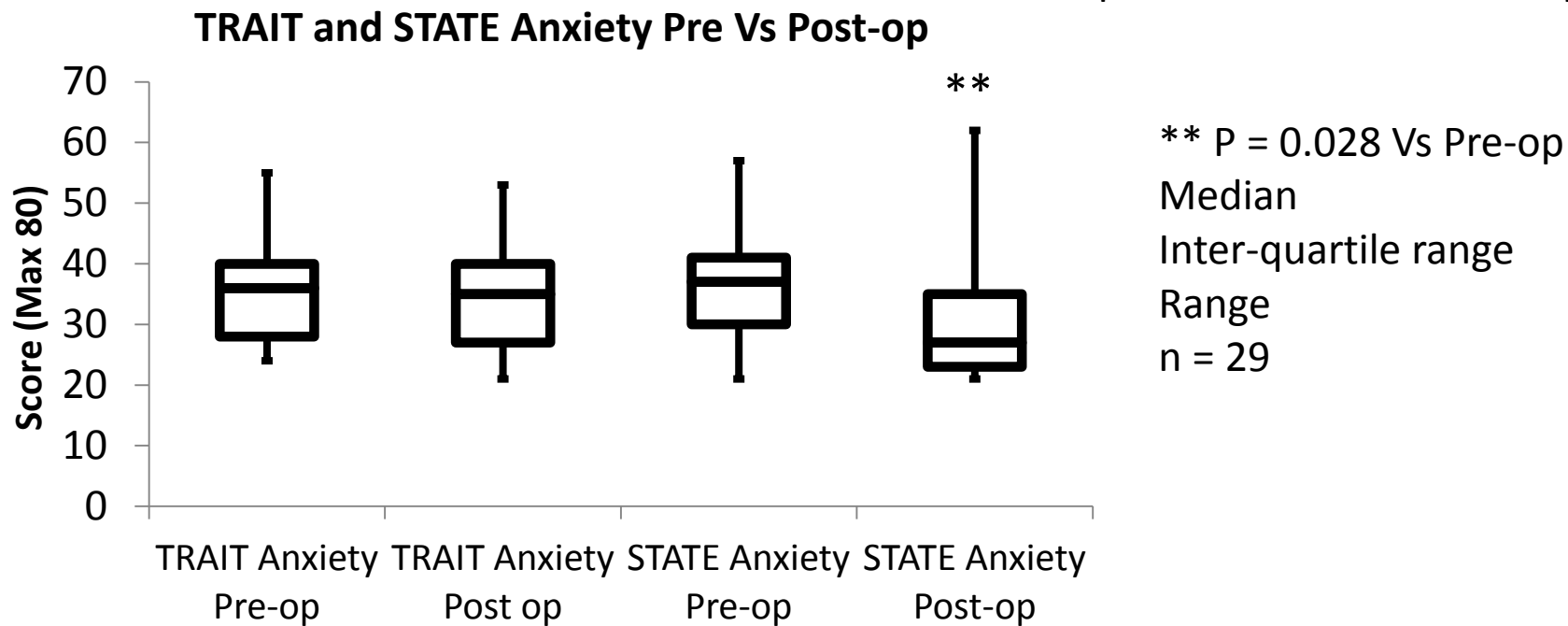
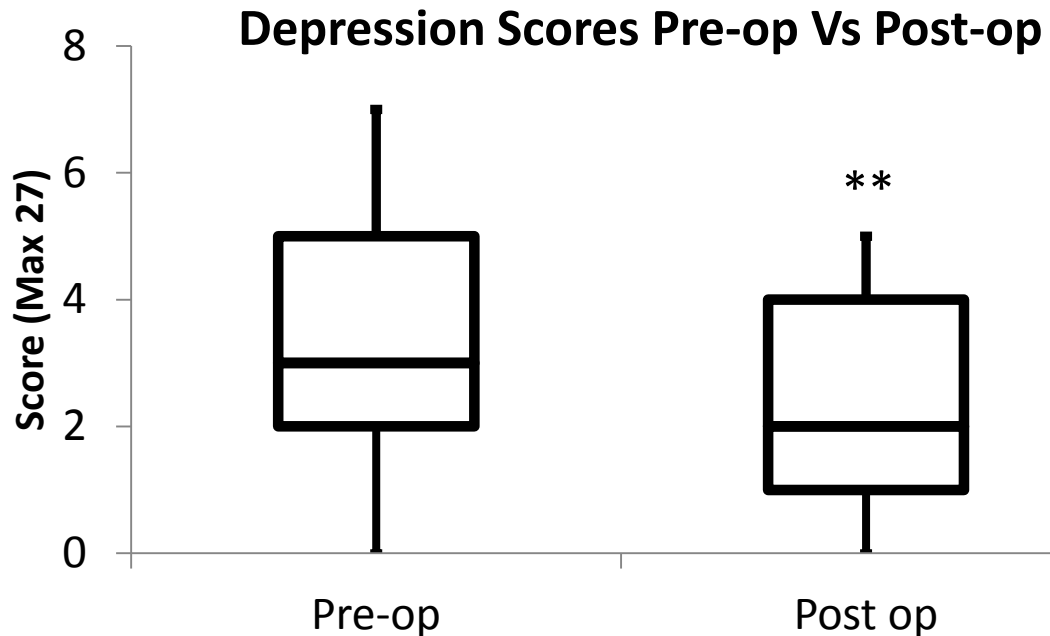
*** $P < 0.001$,

** $P < 0.01$

(mean + SEM;

$n = 29$)

** P = 0.046 Vs Pre-op
Median
Inter-quartile range,
Range
n = 29



Conclusions

- Subjects reported significant pain post-LSCS
- Increased levels of plasma 2-AG and reduced levels of plasma AEA, OEA and PEA post-LSCS
- Reduced state anxiety and depression post-LSCS
- Potential role of the endocannabinoid system in the alterations in pain, anxiety and depression that occur post-LSCS
- Further analysis is on going (repeat LSCS; CSF ECs)

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