

# Changes in cytokines and neurotrophins in cerebrospinal fluid during labour pain.

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Labour pain is unique in that, relative to its intensity, it has a relatively low rate of progression to chronic pain. The role of glial cells and neuroimmune activation has been postulated in the aetiology of persistent pain in other contexts. This raises the possibility that there is something inherently neuroprotective about labour pain. We sought to examine the role of spinal neuroimmune activation, as measured by cerebrospinal (CSF) levels of cytokines and neurotrophins implicated in the pathogenesis of glial activation and chronic pain.

CSF has been collected from 30 women undergoing elective lower segment caesarian section (LSCS) under spinal anaesthesia, which will serve as controls, and 30 women undergoing combined spinal-epidural (CSE) insertion for labour analgesia. Analysis of the CSF from the control group has been completed. Recruitment of the labour group has recently been completed. An interim analysis of the control group (n=30) and the completed assays for the labour pain group (n=7) using Student's *t*-test has revealed that the differences in the levels of two of the proteins under investigation are approaching significance. Analysis of the remaining samples will be completed in early 2013 and the data ready for presentation and publication in its entirety thereafter.

Table 1: Interim Analysis of Neuroimmune Mediators

CSF levels (pg/mL)	Controls (mean $\pm$ SD)	Labour Pain (mean $\pm$ SD)	<i>p</i> -value
MCP-1	1625 $\pm$ 411	1304 $\pm$ 368	0.055
MMP-2	20839 $\pm$ 3459	26989 $\pm$ 16295	0.06

## References

[1] Declercq E, Cunningham DK, Johnson C, Sakala C. Mothers reports of postpartum pain associated with vaginal and cesarean deliveries: Results of a national survey. *Birth*. 2008;35:1624.

[2] Nikolajsen L, Srensen HC, Jensen TS, Kehlet H. Chronic pain following Caesarean section. *Acta Anaesthesiol Scand*. 2004;48:1116.