Letter to the Editor

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Repeated Lumbar Punctures for Non-Clinical Indications: How Do Patients Feel?

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Dear Sir,

We read with interest the findings by Moisset et al. [1], especially data pertaining to indications for lumbar punctures (LPs). LP is a routine, albeit invasive, procedure used for diagnostic and research purposes [2]. The procedure is generally safe and most adverse effects are relatively minor [2]. Understandably however, anxiety about the procedure is often experienced by both patients and their caregivers [2]. In fact, 40.8% of patients in one study had worries about procedural complications and 16.1% had a reluctant attitude towards LPs [3].

Studies to date on pre-LP anxiety have either utilised invalidated anxiety measures or investigated anxiety after the procedure has been completed [2, 4]. In a study that evaluated anxiety before as well as after LP, scores were generally higher before the procedure [4].

We conducted an open trial on blackcurrant antioxidant supplementation in Parkinson's disease (PD) patients. The study involved a small number (n = 10) of patients who took oral supplements for 28 days. To determine cerebrospinal fluid concentrations, patients received 2 LPs: at the start of the trial and after completing the treatment course. No specific additional monitoring was provided in the intervening period.

Prior to each LP, the patient's vital signs were recorded and they were administered the Hospital Anxiety and Depression Scale (HADS). The maximum score on each of the anxiety and depression sub-scales is 21; a cut-off of ≥8 suggests moderate anxiety or depression [5]. The HADS has been validated as an assessment instrument of anxiety and depression in the acute setting [6]. Our study, therefore, was uniquely poised to evaluate LP-associated anxiety prior to the procedure as well as the effect of repeated LPs on anxiety levels.

We observed a significant reduction on the HADS anxiety-subscale scores prior to the first LP (5.4 ± 3.6) compared with the second (2.5 ± 1.8), ($t_9 = 2.69$, $p = 0.025$). A reduction on the depression sub-scale scores was not significant (4.1 vs. 2.9, $p = 0.074$). We found no significant differences in the patients' pre-LP vital signs between the 2 visits: systolic blood pressure (136 vs. 141 mm Hg, $p = 0.61$), diastolic blood pressure (77 vs. 82 mm Hg, $p = 0.25$) or heart rate (75 vs. 68 bpm, $p = 0.28$). Scores of neuropsychological assessments (including the Mini-Mental State Examination, Montreal Cognitive Assessment and unified PD rating scale) were also similar between the 2 visits.

These findings indicate that patients were less anxious prior to the second LP. Since blackcurrant antioxidants do not have any known anxiolytic effect this is unlikely to explain our findings. Similarly, the lack of difference on neuropsychological performance (including self-scores on mood) makes the observed decrease on the HADS anxiety sub-scale less likely to be due to a placebo effect.

We hypothesise that repeated explanation and reassurance by the physician performing the procedure as well as having had a successful first LP may have provided a necessary calming effect. A similar effect has been demonstrated in women undergoing hysterectomy who reported less anxiety if an information booklet was provided pre-operatively [7]. Our findings reiterate the safety of research LP and the importance of adequate consultation with patients prior to invasive procedures.

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Statement of Ethics

This study was approved by Upper South A Regional Ethics Committee, reference: URA/10/03/022. Informed consent was obtained from all patients.

Disclosure Statement

The authors declare no conflict of interest. The trial was funded by Just The Berries, Ltd., New Zealand.

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