Comment on "Comparative Study Between the Analgesic Effect of Prednisolone and Pregabalin in Managing Post Dural Puncture Headache after Lower-limb Surgeries"

To the Editor:

We have recently read the article by Salem E A D et al (1)"Comparative Study Between the Analgesic Effect of Prednisolone and Pregabalin in Managing Post Dural Puncture Headache After Lower Limb Surgeries." The authors concluded the clinical evidence that both oral prednisolone and pregabalin could effectively alleviate the severity of post dural puncture headache (PDPH). However, we would like to raise some concerns.

Considering the author's utilization of oral prednisolone in the treatment of PDPH, we proposed a recommendation. Glucocorticoids may induce a variety of adverse effects, such as Cushing's syndrome, decreased bone mineral density, increased susceptibility to infections, and hyperglycemia. Therefore, they should be administered with caution in high-risk populations, including postmenopausal women, diabetic patients, and individuals who have recently undergone or were scheduled for surgery (2). Although glucocorticoids could be utilized for the treatment of PDPH, they were not part of routine therapy (3). Especially, patients with diabetes mellitus should carefully evaluate the necessity of dose adjustment. In this study, patients in Group P received a daily dose of 20 mg of prednisone for 3 consecutive days. This treatment regimen included patients with comorbid diabetes; however, individuals with uncontrolled diabetes were excluded from the study. Notably, changes in blood glucose levels among patients with comorbid diabetes were not monitored during the study period. Alexander T et al (4) demonstrated that treatment with 20 mg of prednisone significantly impaired the performance of high-intensity intermittent cycling in healthy young men and altered several metabolic and hematologic parameters, notably inducing hyperglycemia. Therefore, understanding whether oral glucocorticoids induce adverse reactions such as hyperglycemia in patients with PDPH and diabetes is critically important. Additionally, it is essential to explore the feasibility of reducing the use of oral glucocorticoids in this kind of population.

We currently conducted a pilot study involving 12 patients diagnosed with PDPH comorbidity diabetes. All patients' blood glucose levels have been well-controlled and no diabetes-related complications. They were randomly assigned to experimental group or control group in a 1:1 ratio. Both groups received 1500 mL of crystalloid solution to ensure adequate hydration, were advised to increase oral fluid intake, maintain a supine position, and take 0.1 g of diclofenac sodium sustained-release tablets daily. The experimental group was administered 10 mg of prednisone acetate tablets daily, while the control group received 20 mg of prednisone acetate tablets daily for three consecutive days. There was no significant difference in the change of VAS scores between the two groups after the third day ($P > 0.05$). However, the changes in fasting blood glucose and postprandial blood glucose at 2 hours in the experimental group were significantly lower than those in the control group on days one, 2, and 3 following the treatment ($P < 0.05$) (Table 1).

Low-dose glucocorticoid therapy had demonstrated efficacy in treating PDPH in patients with diabetes mellitus, with minimal short-term impact on blood glucose levels. For the management of PDPH-related headaches in diabetic patients, oral administration of low-dose glucocorticoids might represent a viable option. However, further research should be conducted and we also tried to explore alternative strategies that could achieve the desired therapeutic outcomes without the use of glucocorticoids.

Table 1. *Pilot study with PDPH comorbidity diabetes.*

Measurement	Experimental Group (n = 6)	Control Group (n = 6)	*P*-value
Variations in VAS	4.42 ± 1.59	4.55 ± 1.56	0.79
Fasting Blood Glucose	5.43 ± 2.96	7.20 ± 3.45	0.022
Blood Glucose Levels 2 Hours Postprandial	8.74 ± 4.33	10.86 ± 4.48	0.018

VAS, visual analog score

Qiang Wang, MM
Department of Pain Management, The First People's Hospital of Shuangliu District, Chengdu, Sichuan Province, P. R. China; Department of Pain Management, West China Hospital, Sichuan University, Chengdu, Sichuan Province, P. R. China

Jiang Zhu, BM
Department of Pain Management, The First People's Hospital of Shuangliu District, Chengdu, Sichuan Province, P. R. China

Ling Ye, MD
Department of Pain Management, West China Hospital, Sichuan University, Chengdu, Sichuan Province, P. R. China; Department of Pain Management, West China Tianfu Hospital, Sichuan University, Chengdu, Sichuan Province, P. R. China
E-mail: zerodq_hx@163.com

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