Letters to the Editor

Comments on "Chronic Pain: Associated with an Increased Risk of Dementia?"

To the Editor:

We have read with great interest the article published in a recent issue of Pain Physician written by Dr. Kao et al (1). They performed a nationwide population-based retrospective cohort study and reported that chronic pain (CP) could increase the risk of dementia. We appreciate their inspiring work and respect their attention to the cognitive health in patients with CP. However, we still have some concerns on the strength of the conclusion based on the absent consideration of analgesics use, unclear description of cognitive baseline of the cohort and missing details of surgical operations.

First, the authors used "analgesics use at least 3 months" as the criteria of CP in this study. However, under such surrogate criteria, the authors did not provide any detailed information of analgesics, including the drug types, doses or using durations. In fact, the analgesic itself was the risk factor for cognitive function. Dr. Kathryn and colleagues found that long term anticholinergic analgesic use was the risk factor for dementia incidence (OR, 1.05; 95%CI, 1.02-1.08) (2). Dr. Kurita et al (3) demonstrated that the use of opioid drugs in doses of more than 400mg per day was the predictor for cognitive decline among the cancer patients. Moreover, another similar study regarding the association between the chronic pain and cognitive dysfunction also considered the analgesic use into the statistical model to analyze the effect of analgesics on cognition (4). Thus, we strongly suggested a depth analysis of analgesics use to avoid confounding bias, or else it would be difficult to exclude the effect of analgesics on the association between the chronic pain and dementia.

Second, although the patients with known dementia were excluded before the index date, the authors failed to provide the cognitive baseline of the cohorts. For instance, there are still many other types of cognitive decline, such as motoric cognitive risk syndrome (MCR), mild cognitive impairment (MCI) and so on. It has been reported that MCR was associated with the increased risk of developing dementia, including Alzheimer's disease and vascular dementia (5,6). Presence of the cognitive dysfunction might severely increase risk of dementia. Thus, we strongly recommend the authors give a clear description of cognitive baseline of the cohort to avoid the possible bias.

Third, the authors took several complications into consideration as covariables, but they did not give any information about surgical operations. Postoperative neurocognitive disorders (PNDs), including postoperative delirium and postoperative cognitive dysfunction, was a common and severe complication of surgery in elderly patients (7,8). Several studies have reported that the patients who developed PNDs are at increased risk of dementia (9,10). Notably, many aged CP patients were suffering from orthopedic diseases and were most likely to take major orthopedic surgery, the type of surgery with a high incidence of PNDs (11,12). Therefore, it is necessary for the authors to record the surgical histories of the cohorts to avoid possible confounding bias.

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