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Letter to the Editor

Letter to the editor regarding "Carotid endarterectomy outcomes according to anesthesia method: General anesthesia or regional anesthesia"

Ayhan Muduroglu, Mustafa Selcuk Atasoy, Serdar Badem

Bursa City Hospital, Department of Cardiovascular Surgery, Bursa, Türkiye

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Dear Editor,

We read the article by Sevil et al. [1] entitled "Carotid endarterectomy outcomes according to anesthesia method: General anesthesia or regional anesthesia" with great interest. First of all, we congratulate the authors for their valuable contribution to the literature. We would like to point out some issues and ask some questions to the authors about the content of the article.

In patients with severe carotid artery stenosis, carotid endarterectomy (CEA) has been still considered as gold standard treatment to prevent adverse cerebrovascular events despite technical advances and increased practices in carotid artery stenting [2]. Anesthesia method is one of the controversial issues of CEA. Many different studies have sought the answer to this question: Which anesthesia technique is better and should be preferred for CEA? In fact, there is no clear answer to this question due to the fact that the relevant studies have mostly revealed no significant differences in terms of complications and mortality [3]. In the current study, no significant differences were found in terms of complications and mortality, which is consistent with the literature.

Intraoperative shunt usage is another controversial issue of CEA. During CEA, some surgeons use routine shunt while others use selective shunt. On the other hand, some other surgeons recommend not using carotid shunts due to the drawback aspects of shunt insertion such as mobilization and subsequent distal embolization of intraluminal plaque and technical difficulty of shunt insertion especially in small diameter arteries [4]. In the current study, the authors indicated that 100% of patients in general anesthesia group and 12.7% of patients in regional anesthesia group were inserted carotid shunts. However, there was no information about shunt insertion-related complications and technical difficulties experienced during shunt insertion procedure. Were there any shunting-related complications and technical failure?

Another issue that caught our attention in the study was the presence of a significant difference in blood transfusion rates between the groups (1.8% in regional anesthesia group vs. 16.7% in general anesthesia group, p=0.028). What was the reason of this significant difference? Did the patients in general anesthesia group experience greater amounts of perioperative bleeding or did they have lower preoperative hemoglobin levels than those in regional anesthesia group?

Lastly, the authors found a significant difference in the mean duration of intensive care unit stay between the groups (1 day in regional anesthesia group vs. 2.5 days in general anesthesia group, p=0.003) although no significant differences were

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Corresponding Author: Ayhan Muduroglu, Bursa City Hospital, Department of Cardiovascular Surgery, Bursa, Türkiye
Email: ayhanmuduroglu1@gmail.com

found between the groups in terms of complications and mortality. So what was the reason for this significant difference? In routine clinical practice, patients who undergo CEA under general anesthesia and do not experience any major complications might often be early extubated and then transferred to the normal ward bed from intensive care unit on the first postoperative day.

Data Sharing Statement: The data that support the findings of this study are available from the corresponding author upon reasonable request.

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Authors Reply

First of all, thank you for your interest in our article.

Well, first of all, we did not see any complications during shunt placement or shunt-related complications in the patients in whom we performed carotid endarterectomy (CEA). In patients with a severely stenotic lesion in the internal carotid artery (ICA), endarterectomy was performed on the plaque in the ICA ostium before shunt insertion and then the shunt was inserted, then we continued the operation by performing endarterectomy in the common carotid and external carotid artery ostium; if the stenosis was not severe, the shunt was inserted directly from the ICA. Therefore, we think that no patient developed plaque embolization. In some patients, the shunt moved out due to intraoperative positional changes; in these patients, the shunt was immediately reinserted and the operation resumed. No other technical difficulties were encountered.

Another issue is blood transfusion between the groups, here we think that the need for more transfusion in the general anesthesia (GA) group was due to the fact that we applied CEA under GA in patients with abnormal hemogram values and high bleeding tendency in preoperative evaluation and relatively high bifurcation. High bifurcation may cause a more difficult operation as a result of a more limited angle of view and increase in the likelihood of bleeding. For these reasons, more blood transfusion was needed in this group in the postoperative period. There is no data on preoperative hemoglobin values included in our study.

In our study, the duration of stay in the Intensive Care Unit (ICU) was found to be longer in the GA group. We think that these patients need to be kept under observation in the ICU for a longer period of time because of the need for more transfusions and more frequent respiratory complications.