

The Relationship Between the Degree of Intraoperative Hypotension and the Onset of Postoperative Hypotension in Carotid Artery Stenting

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Abstract

Purpose: Intraoperative or postoperative hypotension has been reported to be associated with carotid artery stenting. However, few studies have so far investigated the relationship between intraoperative hypotension and the onset of postoperative hypotension following carotid artery stenting.

Materials and methods: The data from 64 cases of cervical carotid artery stenosis treated by carotid artery stenting between February 2009 and May 2010 were analyzed.

Results: Hypotension (systolic blood pressure; 90 mmHg or less) during carotid artery stenting was observed in 53 cases, and postoperative hypotension was noted in 20 cases. The onset of postoperative hypotension was 15–1232 minutes (min) after the operation (average: 165 min, median: 65 min). The diameter of the common carotid artery in the postoperative hypotension group (7.2 ± 0.9 mm) was narrower than that of the non-postoperative hypotension group (7.8 ± 1.0 mm). The onset of postoperative hypotension was significantly delayed in patients with an intraoperative systolic blood pressure less than 70 mmHg than in those with an intraoperative systolic blood pressure of 70 mmHg or higher.

Conclusion: Our findings indicate that there is a significant relationship between the common carotid artery diameter, the degree of intraoperative hypotension and the onset of postoperative hypotension. We think that the degree of the decrease in the intraoperative systolic blood pressure was related to the baroreflex sensitivity, and it is important to monitor the changes in the intraoperative systolic blood pressure and pulse rate to ensure better postoperative management.

Key words : Carotid artery stenting, Hypotension, Baroreflex