Simultaneous Occurrence of Aneurysmal Subarachnoid Hemorrhage and Remote Intracerebral Hemorrhage

—Case Report—

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Abstract

A 77-year-old female presented with a rare aneurysmal subarachnoid hemorrhage accompanied by a remote hypertensive intracerebral hemorrhage. With a past history of hypertension, she suddenly developed right hemiparesis followed by delayed loss of consciousness. Left carotid angiography demonstrated a left internal carotid-posterior communicating artery aneurysm. The intracerebral hematoma was located in the posterior limb of the internal capsule ipsilateral to the ruptured aneurysm. The aneurysm was clipped with a fenestrated clip 3 weeks after the onset. The rise in blood pressure at the onset of intracerebral hemorrhage probably caused the rupture of the internal carotid-posterior communicating artery aneurysm.

Key words: aneurysm, intracerebral hemorrhage, subarachnoid hemorrhage

Introduction

Simultaneous occurrence of multiple hypertensive intracerebral hemorrhages has been reported in only 19 cases. Hypertensive intracerebral hemorrhage concurrent with subarachnoid hemorrhage (SAH) due to a ruptured aneurysm is even more unusual, with just one previous case.

We describe a patient with aneurysmal SAH associated with deep intracerebral hematoma remote from the site of the ruptured aneurysm, and discuss the possible mechanism of occurrence.

Case Report

A 77-year-old female with a past history of hypertension suddenly developed right hemiparesis while bathing on January 1, 1994. She was then alert, so was taken to her bedroom. However, she lost consciousness a few minutes later, and was rapidly brought to our hospital.

On admission, she was semicomatose with right hemiparesis. Her blood pressure was 220 mmHg. Laboratory examinations were within normal limits. Computed tomography (CT) showed hemorrhage in the left corona radiata and posterior limb of the internal capsule with ventricular hemorrhage and SAH predominantly in the left Sylvian fissure and basal subarachnoid cistern (Fig. 1). The left carotid angiogram showed a left internal carotid-posterior communicating artery (IC-PComA) aneurysm (Fig. 2). No other vascular lesions were detected in the capillary or venous phases.

Surgery to treat the aneurysm was delayed since her condition was unstable. Her general condition improved and had stabilized after 3 weeks. Left frontotemporal craniotomy was performed on January 22, 1994. Through the left pterional approach the aneurysm neck was clipped with a Sugita No. 26 fenestrated clip. A ventriculoperitoneal shunt was...
implaced on April 19, 1994. The postoperative course was uneventful. She was transferred to another hospital for rehabilitation on October 14, 1994.

Discussion

The incidence of ruptured aneurysm associated with intracerebral hemorrhage varies from 4% to 35%. Silver et al. studied the relationship between the location of hematoma and ruptured aneurysm, and concluded that distinguishing ruptured aneurysm causing intracerebral hemorrhage from hypertensive intracerebral hemorrhage in the basal ganglia was difficult on the basis of CT findings. Ruptured aneurysm causing hemorrhage in the thalamus or corona radiata was not mentioned in their study. Pasqualin et al. studied the location of intracerebral hemorrhage due to ruptured aneurysm, finding no corona radiata or thalamic hemorrhage due to IC-PComA aneurysm. Imanaga et al. also found intracerebral hemorrhage was infrequent in ruptured IC-PComA aneurysms and could not find corona radiata or thalamic hemorrhage due to such aneurysms.

In our patient, hemiparesis preceded consciousness disturbance and she had a past history of hypertension, indicating the intracerebral hemorrhage and SAH occurred independently. The radiological findings indicated that the intracerebral hemorrhage was located remote from the ruptured aneurysm and no causative vascular lesions were detected, showing the causes of SAH and intracerebral hemorrhage were different. Yanaka et al. showed that concurrent SAH could result from ruptured aneurysm and hypertensive intracerebral hemorrhage. Their study found that patients had complaints of right sensory disturbance before the onset of severe headache, so that the rupture of the aneurysm was possibly due to a rapid increase in blood pressure following hypertensive intracerebral hemorrhage. Therefore, a rise in blood pressure at the onset of intracerebral hemorrhage probably caused rupture of the IC-PComA aneurysm in our patient.

References


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