

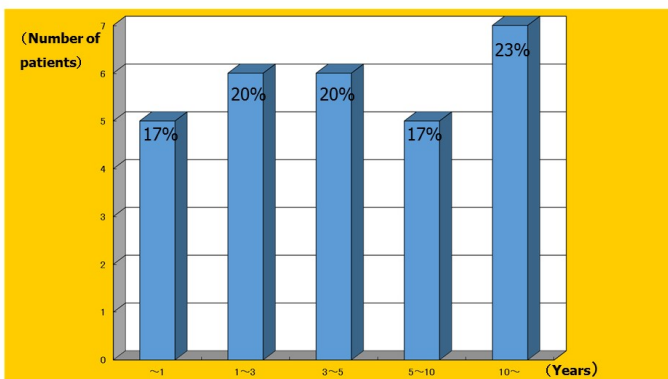
Background and Purpose

Although much effort has been made to study first-ever intracerebral hemorrhage (ICH) patients, recurrent ICH (r-ICH) has not been investigated as extensively. We sought to evaluate recent clinical features and prognosis of r-ICH in Japan.

Methods

Of 331 patients admitted to our institute with ICH between December 2008 and May 2014, 30 patients (9.1%) with r-ICH were included in this study. Clinical features, changes in hemorrhagic location, mortality, and prognosis were evaluated. Unfavorable functional outcome was defined as a modified Rankin scale score of 3-6.

Table 1 The period until recurrent bleeding:
(range: 1 month to 17 years, mean; 6.6 years)



Results

The patient group consisted of 16 males and 14 females with a mean age of 74.8 years (range, 47-94 years). The mean period until ICH recurrence was 6.7 years [< 1 year, 5 patients (17%), 1-5 years, 12 patients (40%), 6-10 years, 5 patients (17%), > 11 years, 7 patients (23%)] (**Table 1**). Bleeding occurred second two times in 26 patients (87%), three times in 3 patients (10%), and four times in 1 patient (3%). The most frequent vascular risk factor was hypertension (67%). Six patients (20%) with ischemic stroke were on antithrombotic treatment. First-onset ICH was observed in a deep location in 65% of patients, a lobar location in 20% of patients, and an infratentorial location in 15% of patients. At recurrence, ICH location changed in deep cases (Type 1: 53%), lobar cases (Type 2 & 4: 40%), and infratentorial cases (Type 3: 7%) (**Table 2**). The mortality rate and the rate of unfavorable outcome at discharge were 27% and 87%, respectively (**Table 3**).

Table 2 Changes in hemorrhagic location

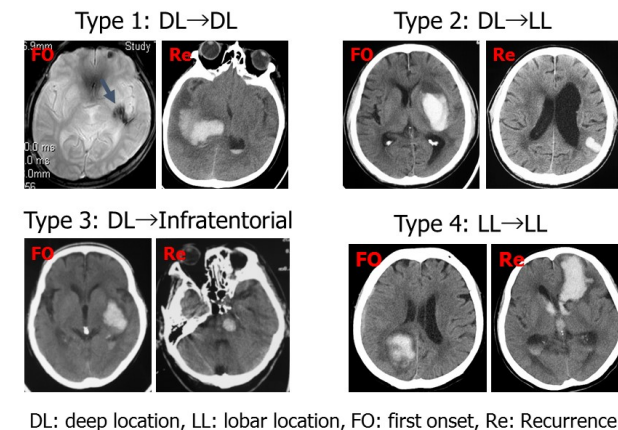
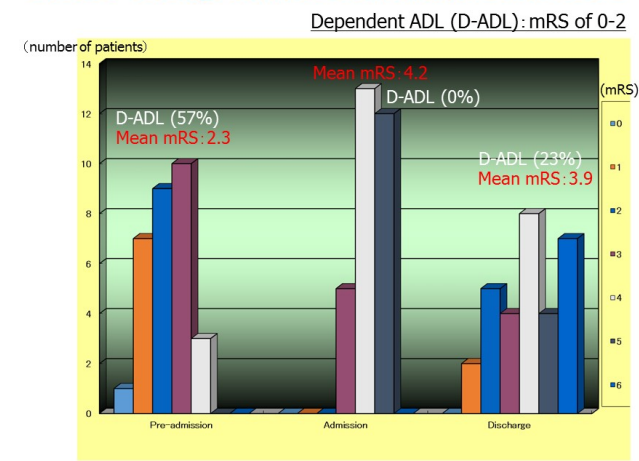


Table 3 Change in modified Rankin Scale score



Conclusion

The rise in the incidence of lobar type r-ICH in the elderly may be strongly influenced by cerebral amyloid angiopathy. The prognosis of patients with r-ICH remains very poor despite appropriate secondary prevention.