DYNAMICS OF THE COAGULATION SYSTEM IN HAEMORRHAGIC STROKE COMPLICATED BY SECONDARY CEREBRAL ISCHAEMIA

Djavokhir Bakhodirovich Mirzoyev
Tashkent Medical Academy

Malika Ilkhomovna Kamalova
Samarkand State Medical Institute

ABSTRACT

One of the urgent problems of clinical neurology is intracerebral hemorrhage, a complication of which is secondary cerebral ischemia (SCI), clinically manifested by worsening of the patient's condition. The main group consisted of 50 (41,6%) patients with hemorrhagic stroke with signs of cerebral AV. The control group consisted of 70 (58,4%) patients with hemorrhagic stroke without signs of VI. Indexes of the coagulation system of PTI and ACTV have a reliable increase in the development of ST and may serve as laboratory markers of therapeutic measures efficiency.

Key ords: hemorrhagic stroke, secondary ischaemia, coagulation system.

Abstract: One of the urgent problems of clinical neurology is intracerebral hemorrhage, a complication of which is secondary cerebral ischemia (SCI), clinically manifested by worsening of the patient's condition. The main group consisted of 50 (41,6%) patients with hemorrhagic stroke with signs of cerebral AV. The control group consisted of 70 (58,4%) patients with hemorrhagic stroke without signs of VI. Indexes of the coagulation system of PTI and ACTV have a reliable increase in the development of ST and may serve as laboratory markers of therapeutic measures efficiency.

Purpose of study: Study of coagulation dynamics in hemorrhagic stroke complicated by secondary cerebral ischemia

Material and Methods: The main criterion for inclusion of patients in the study was acute cerebral circulation disorder of hemorrhagic type, presented as intracerebral hematoma or subarachnoid hemorrhage, verified by neuroimaging methods - MSCT and MRI.

The main group consisted of 50 (41.6%) patients with acute cerebral haemorrhagic circulatory disorder, who developed signs of cerebral AV against the background of cerebral vasospasm (CVV) on the 3-5 days of stay in the clinic.

1. The control group consisted of 70 (58.4%) patients with acute haemorrhagic cerebral haemorrhage without signs of VI.
2. Results: In order to study the blood coagulation system, we analysed such parameters as prothrombin index (PTI), haematocrit, fibrinogen and activated BTV and their relationship with the nature of the formed VI zones. We assessed these parameters on admission, as well as on day 7 of the stay in the

clinic. For the convenience of interpretation and analysis, the VI sites were conventionally divided into the following types:

3. "Single WI foci around a small stroke haematoma" up to 20 mm of one of the 3 indices (anteroposterior, lateral or height dimension);
4. "Single foci of secondary ischaemia around stroke-haematoma of medium size" up to 30 mm;
5. "Single foci of VI around a large-sized stroke-haematoma" greater than 30 mm;
6. "A single WI foci distant from the stroke-haematoma";
7. "Multiple HI foci distantly located from stroke haematoma".

In 7 (14%) patients, control CT scan of the brain, performed on the 5th day of stay in the clinic, a single lesion of VI around stroke-hematoma of small size was diagnosed, mean volume of stroke-hematoma was 8,3±1,7 cm3. Mean PTI at admission was 83.3±8.2%, on the 7th day - 84.1±10.3%, blood-thickness index - hematocrit at admission was 38.0±5.0%, on the 7th day - 37.3±2.6%. The mean value of fibrinogen on admission was 3.7±0.9 g/liter, on day 7 - 3.8±0.8 g/liter, AEF value was 32.6±2.5 sec, on day 7 - 38.6±2.2 sec (Table 2). Thus, hypercoagulation phenomena in patients with minimally expressed phenomena of VI were expressed to a minimum extent [1-15].

There is a pattern of increase in the area of the HI and coagulation indices indicating hypercoagulable state as the volume of stroke-hematoma increases. In 15 (30%) patients with a single HI focus around a medium-sized (up to 30 mm) stroke-hematoma, the average volume of hemorrhage (13,8±2,5 cm3) was increasing, with a corresponding increase of hypercoagulation state - PTI at admission was 92,8±8,7%, on the 7th day - 94,3±9,1%, hematocrit at admission was 41,3±5,9%, on the 7th day - 38,9±3,8%. The mean value of fibrinogen on admission was 4.5±0.8 g/liter, on the 7th day - 4.2±0.9 g/liter, AEF value - 27.7±4.4 sec, on the 7th day - 29.9±1.8 sec.

The most pronounced hypercoagulable state is observed in patients with distant solitary and distant multiple foci of VI, with stroke haematomas having the maximum volume in these patients. Thus, in 10 (20%) patients with a single WI foci distant from the stroke haematoma, the mean stroke haematoma volume was 32.2±8.2 cm3. PTI at admission was 105.4±9.8%, on day 7 it was 99.1±9.5%, hematocrit at admission was 40.4±2.3%, on day 7 it was 39.1±2.5% (Table 3.12). Mean fibrinogen on admission was 4.5±0.3 g/litre, on day 7 - 4.2±0.3 g/litre, PATI was 25.1±2.9 sec, on day 7 - 28.0±3.2 sec.

Patients with multiple distant foci of secondary ischemia were characterized by maximum stroke-hematoma volume, with an average size of 36.7±7.8 cm3. Coagulation properties of blood were characterized by marked hypercoagulability: PTI at admission was 110.7±9.3%, on day 7 - 104.6±8.4%, hematocrit at admission was 42.0±2.8%, on

day 7 - 39.4±2.3%. Mean fibrinogen on admission was 4.6±0.74±0.7 g/litre, on day 7 - 4.1±0.7 g/litre, ACTV was 23.3±1.7 sec, on day 7 - 26.9±1.6 sec.

Conclusions: Thus, the parameters of the coagulation system - PTI and ACTV - have a significant increase in the development of secondary ischaemia and can serve as a laboratory marker of therapeutic efficacy [16-35].

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