

CHAPTER IV

MEASUREMENT

Patients with the history of sudden headache who developed hemiparesis or hemiplegia were enrolled in this study. Detailed history and physical examination was recorded on admission. Data from investigations performed during the first 24 hours after admission were also included.

Administrative Variables.

- A. I.D. number
- B. Name
- C. Sex
- D. Occupation

Predictive Variables.

- A. Time from onset to diagnosis by computerized tomography scan or magnetic resonance imaging of the brain (days).
- B. Age in years.
- C. Level of consciousness (Glasgow Coma Scale) at the time of admission (TABLE 4.1).

GLASGOW COMA SCALE

| | | | |
|----------------------|--------------------------|------------------------|---|
| EYES | open | spontaneously | 4 |
| | | to verbal command | 3 |
| | | to pain | 2 |
| | | no response | 1 |
| BEST MOTOR RESPONSE | to verbal command | | 6 |
| | to painful stimuli | | |
| | | localizes pain | 5 |
| | | flexion-withdrawal | 4 |
| | | flexion-abnormal | 3 |
| | | (decorticate rigidity) | |
| | | extension | 2 |
| | | (decerebrate rigidity) | |
| | | no response | 1 |
| BEST VERBAL RESPONSE | oriented and converses | | 5 |
| | disoriented and converse | | 4 |
| | inappropriate words | | 3 |
| | incomprehensible sound | | 2 |
| | no response | | 1 |

TOTAL 3-15

GCS 3-7 = severe

GCS 8-11 = moderate

GCS 12-15 = mild

TABLE 4.1

D. Site of hemorrhage

Lobar (frontal, parietal, temporal, occipital lobe)

Basal ganglia

Thalamus

E. Volume of the hematoma in centimeters³ was estimated by the radiologist who performed CT scan by measuring the volume of the high-absorption lesion (length × width × cut thickness).

F. Intraventricular hemorrhage.

G. Hyperglycemia (fasting venous plasma glucose > 7.8 mmol/l or 140 mg/dl) in the first 24 hours after admission.

H. Previous stroke

I. Previous myocardial infarction

J. History of hypertension

K. History of diabetes mellitus

L. Blood pressure was recorded at the time of admission. Reading of systolic and diastolic blood pressures were taken from the left arm of each subject with a mercury-column sphygmomanometer in supine position. Readings were records to the nearest even number. The fifth Korotkoff sound (disappearance) was used to determine diastolic pressure unless the sound persisted until zero, in which case the fourth sound was recorded.

Outcome Variables.

A. Death or survivor

Definition of death :

1. Death included patients who did not have a vital sign.

2. Brain death defined by the Thai Medical Council Committee criteria.

3. Patients underwent neurosurgical intervention owing to deterioration of consciousness from increased intracranial pressure or brain herniation due to intracerebral hematoma. Although the intervention would not alter the outcome, it would prolong the duration of survival more than three weeks (which is the time of interest in this study).

B. Time from onset of ICH to death. (hours)

C. Causes of death were sought in every cases.

Outcome variables were assessed at day-7, day-14 and day-21 after admission by the same neurologist. A hyperdense lesion before contrast injection in the CT scan of the brain which is characteristic of ICH was determined by a radiologist who was not aware of the case, who reported the characteristics of the ICH according to side, site, presence or absence of intraventricular hemorrhage, and volume of the hematoma.

Intervention.

Repeated CT scan were performed if the patient had a rapid deterioration of consciousness or signs of brain herniation (unilateral pupillary dilatation, progressive weakness, decerebrate rigidity). Medical treatment such as intubation, hyperventilation, osmotherapy by intravenous mannitol or glycerol or neurosurgical intervention were performed.

Data Collection.

Data was collected by the data collection form (TABLE 4.2). This includes administrative variables e.g. name, age, sex, occupation, etc., predictive variables and outcome variables by research assistant (neurologist).

DATA COLLECTION FORMA. Administrative data.

1. I.D. No.
2. Hospital number _____
3. Admission number _____
4. Name _____ Surname _____
5. Date of birth ___/___/___ (dd/mm/yy)
6. Sex ___ (male=1, female=2)

B. Predictive data.

1. Date of onset ___/___/___
Time from onset to CT scan ___ hours
2. Date of admission ___/___/___ Time ___ o'clock.
3. Age ___ years.
4. Glasgow Coma Scale ___
5. Side of bleeding (from CT scan)_(R=1,L=2)
6. Site of bleeding
(lobar=1, basal ganglia=2, thalamus=3)___
7. Intraventricular bleeding Yes=1_ No =2___
8. Volume of hematoma ___ ml.
9. Fasting venous plasma glucose ___ mg/dl'
(during first 24 hours after admission)
10. History of previous stroke Yes=1__No=2___
11. History of myocardial infarction
Yes=1__ No=2 ___
12. History of hypertension Yes=1__ No=2___
13. History of diabetes mellitus Yes=1 _ No=2 _
14. Systolic blood pressure ___ mmHg
15. Diastolic blood pressure___ mm Hg

C. Outcome.

1. Outcome (0=alive 1=death)

Day-7

Day-14

Day-21

death _alive _ death_ alive_ death_alive_

2. Time from onset to death _ days.

3. Cause of death _____

TABLE 4.2