Mrs. F is a 82-year-old female. She had a ground-level fall on April 16th. She complained of headache, however, had no neurological deficits. She was seen in the emergency department at a rural hospital and a CT scan was done on April 28th. The CT scan showed a left subdural hematoma (SDH) with no midline shift (see below diagram). Mrs. F has a history of hypertension and is on anti-hypertensive (hydrochlorothiazide, amlodipine, metoprolol, enalapril) agents. She has a cholecystectomy 20 years ago. Otherwise she is healthy and independent with her activities of daily living before the fall. However, approximately one year ago, she started to have problems with memory. She requires a walking cane when going outdoors and she can only function on the main floor of the house. Family also planned to install a grab bar for the bathroom and equipment in the house before patient's fall in April.

On June 5th, Mrs. F was found by family having difficulty with speech and left sided weakness with poor gait. She was referred to the neurosurgery unit of the tertiary hospital on June 8th.

On examination, Mrs. F’s Glasgow Coma scale was 13 (E4, V3, M6). She had expressive aphasia, normal facial symmetry, blood pressure 172/78, pulse 96/min, \(\text{SpO}_2\) 92% on room air. She has right hemiparesis, and her motor power of right upper limb was 1/5 and right lower limb was 3/5.

A repeated CT scan of head found significant increase in the subdural collection with 4.5mm midline shift (see below diagram). Mrs. F was diagnosed with subacute on chronic subdural hematoma.
A subdural drain was inserted under local anesthetic. The subdural drain drained 125ml dark bloody drainage over a 24 hours period. A CT scan of head was repeated on June 9th. It showed the subdural collection was decreased (see below diagram). Due to CT scan still revealing some subdural collection, the subdural drain remained for an additional day. On examination, the patient was disoriented to time and place. However, her motor strength was improved.

More information on subdural hematoma can be found on [www.neuro4nurses.com](http://www.neuro4nurses.com)

**Subdural Hematoma Case Study Quiz**

1) A subdural hematoma is usually resulted from:
   a) Trauma head injuries
   b) Ruptured aneurysms
   c) Ground level falls
   d) Spontaneous bleeding

2) What is the common treatment option for subdural hematomas?
   a) Crainectomy
   b) Subdural drain
   c) Jackson-Pratt drain
   d) Hemovac drain

3) What is the usual onset of subdural hematomas?
   a) Immediate
   b) 24 hours
   c) Several days
   d) Weeks

4) Why do subdural hematomas usually occur in older adults?
   a) Higher risk of fall
   b) Cerebral atrophy
   c) Bleeding tendency
   d) Fragile blood vessels

5) What is the most common presentation of subdural hematoma?
   a) Confusion
   b) Seizure
   c) Incontinent
   d) Unsteady gait

**Case Highlight**

Mrs. F has no signs and symptoms after the fall in April because of “extra space” in the cranium related to her cerebral atrophy, which is appropriate for her age. A subdural hematoma is usually resulted from the venous bleeding. The bleeding is very slow, however, if it does not stop, the blood will gradually accumulate and patients will develop signs and symptoms over a period of time like Mrs. F.

Common treatment for subdural hematoma is an insertion of a subdural drain to drain out the blood. Even though Mrs. F’s subdural hematoma had not completely drained, her CT scan shown no midline shift and her motor power gradually improved. Normally, the “residual” hematoma is able to reabsorb overtime. However, if the subdural hematoma were to re-accumulate, insertion of another subdural drain or surgery may be required. Therefore, close monitoring for Mrs. F’s neurological status and follow up CT scan is essential.

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