Case 9: Intracranial Hypertension and Hydrocephalus

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Fifty-nine-Year-old lady with a history of poorly controlled arterial hypertension was taken to A&E for sudden intense headache. Upon arrival at the hospital she was in the state of unconsciousness (GCS 3) associated with left anisocoria and arterial hypertension. She was then quickly sedated and intubated for airway protection and was taken to radiology for a head CT. Brain CT angio showed subarachnoid haemorrhage Fisher 4 grade with intraparenchymal haematoma from rupture of a bilobate aneurysm of the left middle cerebral artery (MCA) and initial hydrocephalus sings. The patient was then admitted to ICU where a TCCD was performed just after her arrival. The brain ultrasound showed:

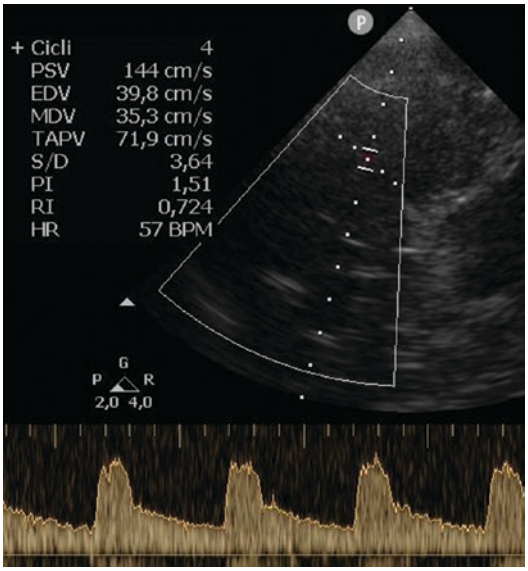

Fig. 33.1 Flow in left MCA

- A right midline shift of 3 mm.
- Estimated ICP with the flow diastolic formula of 21 mmHg and an increased pulsatility index of 1.5 (Fig. 33.1).
- Third ventricle width of 7 mm (Fig. 33.2).

The following day, angiographic coiling of the aneurysm was performed without complications, and sedation was stopped: GCS E4 M6 Vt patient was aphasic with a minor right motor weakness, and the patient was extubated. 24 hours after,

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C. Robba, G. Citerio (eds.), *Echography and Doppler of the Brain*,
https://doi.org/10.1007/978-3-030-48202-2_33

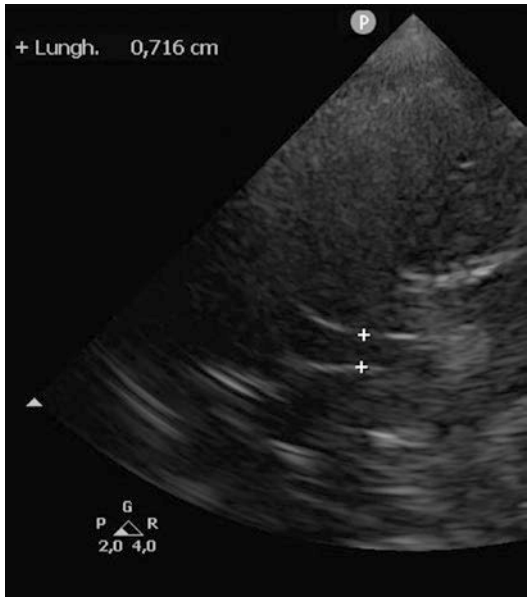

Fig. 33.2 Third ventricle 7 mm wide before the lumbar puncture

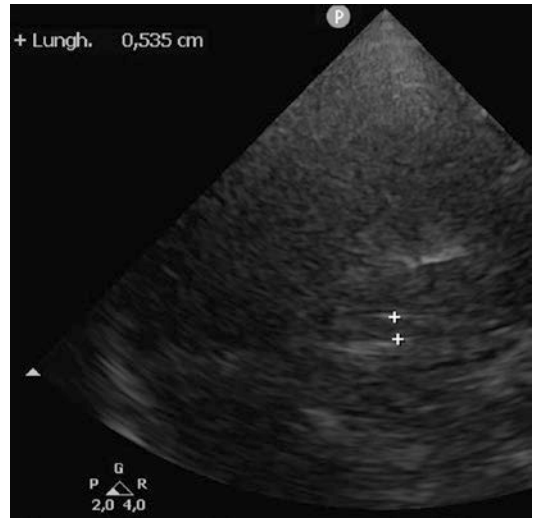

Fig. 33.3 Third ventricle 5 mm wide after the lumbar puncture

GCS dropped to E4 M5 V2; a new brain CT showed increased hydrocephalus with a patent fourth ventricle, the reason why a lumbar puncture was carried out and 20 ml of haematic CSF (cerebrospinal fluid) was subtracted. After the procedure neurological status improved and brain ultrasound showed a narrowed third ventricle (5 mm width) (Fig. 33.3).