Spontaneous Spinal Subarachnoid Haemorrhage

Report of 3 Cases

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Spinal subarachnoid haemorrhage is a rare syndrome, and in almost all the reported cases the cause of the haemorrhage has been evident.2,5,7,8 We report 3 new cases in which the cause was unknown or at best presumptive.

Case Reports

Case 1. A 48-year-old man was admitted to a general surgical unit because of inability to void urine during the preceding 24 hours. The pulse rate was 124 per minute, and blood pressure 200/140 mm. Hg. There was voluntary spasm over the lower abdomen and the bladder was distended. Catheterization yielded 600 ml. of straw-coloured urine. Neurological examination on the following day revealed a lethargic and somewhat inattentive patient with clouding of consciousness. His speech was slurred and his responses to questions slow. He complained of mid-thoracic back pain. Meningismus was present. His legs were weak: in all muscle groups the power was barely able to overcome gravity. The lower limb reflexes were increased with bilateral extensor plantar responses. Sensory modalities were not easily tested because of the patient's inattention, but he appeared to be anaesthetic from the fifth thoracic dermatome downward. Vibration and joint sense were apparently intact.

Lumbar puncture revealed a blood-stained cerebrospinal fluid with a pressure of 90 mm. H2O; jugular venous compression produced a slow rise to 140 mm. H2O. The protein content was 5,200 mg. per cent and the supernatant fluid was xanthochromic. Blood urea was 65 mg. per cent. Full blood count, prothrombin index, bleeding and clotting times were all normal. Cisternal myelography revealed a block at the 6th thoracic interspace.

Operation. Laminectomy was performed on the same day. The dura was dark blue and non-pulsatile (Fig. 1A). It was incised longitudinally, and a clot was then evident beneath the intact arachnoid; it extruded spontaneously as the arachnoid was opened (Fig. 1B). The clot was 12 cm. in length and its tail was aspirated from beneath the membranes lying under the intact caudal laminae. A catheter could then be passed freely both cranially and caudally in the subarachnoid space. No arterio-venous anomaly was evident (Fig. 1C).

Postoperative Course. The patient improved rapidly. Blood pressure returned to normal within a few days. Exterceptive sensation returned to normal within 4 weeks, bladder sensation returned a week later and the urinary catheter was then removed. Within 2 months the patient was walking on a wide base, and no neurological deficit was evident a month later.

Repeated platelet counts, clotting and bleeding times, and prothrombin indices were normal. A postoperative aortogram demonstrated excellent filling of the radicular arteries, and no abnormality of spinal circulation.

Case 2. An 81-year-old man was admitted after a sudden onset of pain in the abdomen and neck for one day. He had experienced exertional dyspnoea for 6 years and swelling of the legs for 1 month. He was in mild respiratory distress with a pulse rate of 110 per minute and a blood pressure of 160/120 mm. Hg; there was a marked right ventricular failure with asciites. No clinical cardiomegaly was evident. The aortic component of the second heart sound was accentuated and a left atrial gallop rhythm was present. There was arterio-venous nipping of the retinal vessels. Meningismus was present. The cerebrospinal fluid was blood-stained; this was thought to be a traumatic tap.

Later that day the patient became unable to void urine and developed a total flaccid paralysis with an upper sensory level at the 1st lumbar dermatome. On the following day this level had ascended to the 11th thoracic dermatome. Neurological advice was then sought. Repeat lumbar puncture resulted in a "dry" tap. Cisternal puncture produced a blood-stained cerebrospinal fluid and the supernatant fluid was xanthochromic. Myelography demonstrated a partial block at the level of the 6th, and a total block at the level of the 11th, thoracic vertebrae.

Operation. Laminectomy of the 8th thoracic to the 3rd lumbar vertebrae revealed a distended and blue dura. There was a clot in the subarachnoid space; it was thin and tenuous above the 11th thoracic vertebra, but below this to the cauda equina, the cord was enmeshed in solid clot. Myodil escaped freely after evacuation of the clot. There was no macroscopic evidence of any vascular malformation. Histological study of the clot did not reveal any angiomatus tissue.

Postoperative Course. The blood pressure returned to normal. The neurological deficit failed to improve postoperatively, and the patient remained totally paraplegic. The cardiac failure responded to therapy. No evidence of a bleeding diathesis was found.

Case 3. A 30-year-old man suddenly developed severe occipital pain during coitus. The pain radiated down his back and into his head. Almost simultaneously his legs felt numb and he was unable to move them.

While undergoing routine examination 5 years previously he had been found to have a coarctation of the aorta. Surgery revealed an extensive obliterative arteritis of the lower thoracic aorta, but no replacement was attempted. He had remained asymptomatic in the ensuing years.

The patient was very distressed and uncooperative. The blood pressure was 180/120 mm. Hg in the upper limbs, and the pulse rate 90 per minute. There was a long thoracotomy scar. The left ventricle was enlarged. The aortic component of the second sound was accentuated and there was an early ejection systolic murmur. Gross arterial collateral circulation was present in the

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Fig. 1. Case 1. Findings at laminectomy. A. shows the dark appearance of the intact arachnoid; B. shows clot extruding spontaneously from the subarachnoid space as the arachnoid was incised; C. appearance after removal of the subarachnoid clot.