Blood is a potent irritant to nervous tissue and alone can cause arachnoiditis. In combination with chemical substances, the risk is magnified.

This was first noted in relation to oil-based myelographic dyes by Howland and Curry ([1]) who found that in dogs, blood and dye together caused severe adverse effects.

Hence dural puncture during epidural administration of drugs should be treated seriously.

Common practice currently involves administration of an epidural blood patch (EBP) which aims to seal the spinal fluid leak to reduce the impact of the post-dural puncture headache (PDPH).

However this practice introduces the highly irritant blood into the delicate area of the subarachnoid space. (See above).

Arachnoiditis as a complication of subarachnoid haemorrhage:

This has been reported by various authors. Blood in the subarachnoid space is highly irritant.

Aldrete has described the acute meningeal reaction followed by a chronic reactive process involving fibrosis and adhesions.

Tjandra et al. ([2]) gave a detailed report of two cases in which subarachnoid haemorrhage was later associated with chronic arachnoiditis, with progression to loss of spinal cord function and in one case, spinal cord cavitation causing paraplegia.

Shaw et al. ([3]) noted that these complications seem to occur more frequently in the thoracic spine.

Jourdan et al. described a case of spinal arachnoiditis with paraplegia after subarachnoid haemorrhage due to a ruptured intracranial aneurysm. ([4])

Taguchi et al. ([5]) reported a case of spinal arachnoiditis and a spinal arachnoid cyst in a patient who sustained a ruptured vertebral artery aneurysm.

The authors speculated that the use of fibrin glue during the reparative surgery may have been a causative factor in the formation of the arachnoid cyst.

In 2000, Kok et al ([6]) reported on two cases of spinal arachnoiditis after subarachnoid haemorrhage, in which there was complete spinal block at thoracic level.

They noted that gradual improvement in symptoms occurred over a period of time.

Arachnoiditis following trauma or multiple lumbar punctures may also arise due to the presence of blood within the subarachnoid space.

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[1] Howland and Curry *Radiology* 1966 Experimental Studies of Pantopaque arachnoiditis. 1. Animal Studies.

[2] Tjandra JJ, Varma TR, Week RD *Aust NZ J Surg* 1989; 59: 84-87 Spinal arachnoiditis following subarachnoid haemorrhage

[3] Shaw MDM, Russell JA, Grossart KW, *J Neurol Neurosurg Psychiatry* 1978; 41: 97-107 The changing pattern of spinal arachnoiditis.

[4] Jourdan C, Artru F, Convert J, Ottolese C, Chiara Y, Naous H, Tixier S, Terrier A. *Agressologie* 1990 Jun;31(6):413-4[A rare and severe complication of meningeal hemorrhage: spinal arachnoiditis with paraplegia]

[5] Taguchi Y, Suzuki R, Okada M, Sekino H.*J Neurosurg* 1996 Mar; 84(3):526-9 Spinal arachnoid cyst developing after surgical treatment of a ruptured vertebral artery aneurysm: a possible complication of topical use of fibrin glue. Case report.

[6] Kok AJ, Verhagen WI, Bartels RH, van Dijk R, Prick MJ.*Acta Neurochir (Wien)* 2000;142(7):795-8; discussion 798-9 Spinal arachnoiditis following subarachnoid haemorrhage: report of two cases and review of the literature.