Epidural blood patch technique

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see Total Spinal Epidural "Blood Patch" Application Through a Racz Catheter in Spontaneous Intracranial Hypotension ¹⁾.

Summary: 10 ml of non-heparinized autologous blood injected into epidural space. Accessing epidural space (one of several techniques): proceed as routine LP. When ligaments are traversed, and needle tip is nearing spinal canal, stylet is removed. Then, either place drop of sterile saline in hub (hanging drop technique) and advance while watching for it to be drawn into needle as epidural space is entered, or gently try injecting air with small syringe (preferably glass, lower resistance) while advancing, when the epidural space is entered, resistance to injection disappears, but CSF cannot be aspirated. A venipuncture site is prepared aseptically. 10 ml of the patient's blood is withdrawn. After veri- fying CSF cannot be aspirated through the spinal needle, the blood is injected into the epidural space. After 30 minutes supine, patient may ambulate ad lib.

A small amount of the patient's blood is injected into the epidural space near the site of the original puncture; the resulting blood clot then "patches" the meningeal leak. The procedure carries the typical risks of any epidural puncture. However, even though it is often effective, further intervention is sometimes necessary.

An epidural needle is inserted into the epidural space at the site of the cerebrospinal fluid leak and blood is injected. The clotting factors of the blood close the hole in the dura.

As such, the autologous blood does not "repair" the leak, but rather treats the patient's symptomology.

It is also postulated that the relief of the headache after an epidural blood patch is due to more of a compression effect than sealing the leak. Because the fluid column in the lumbar spine is continuous with the fluid around the brain, the blood exerts a "squeeze" and relieves the low pressure state in the head.

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Hatano K, Kawamura D, Ohashi H, Hamaguchi T, Hattanmaru Y, Tani S, Murayama Y. Total Spinal Epidural "Blood Patch" Application Through a Racz Catheter in Spontaneous Intracranial Hypotension. World Neurosurg. 2019 Dec 6. pii: S1878-8750(19)33019-0. doi: 10.1016/j.wneu.2019.11.169. [Epub ahead of print] PubMed PMID: 31816456.

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