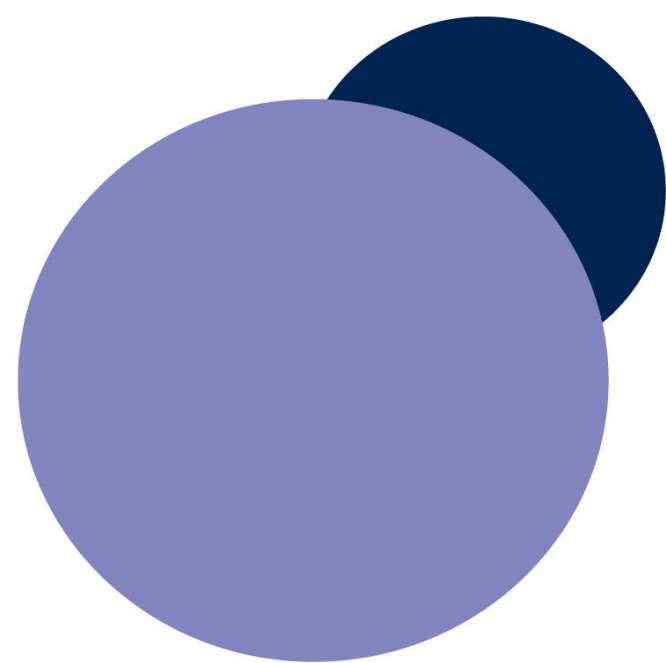


Arachnoiditis after COVID-Positive Epidural Blood Patch: A Case for Ketamine

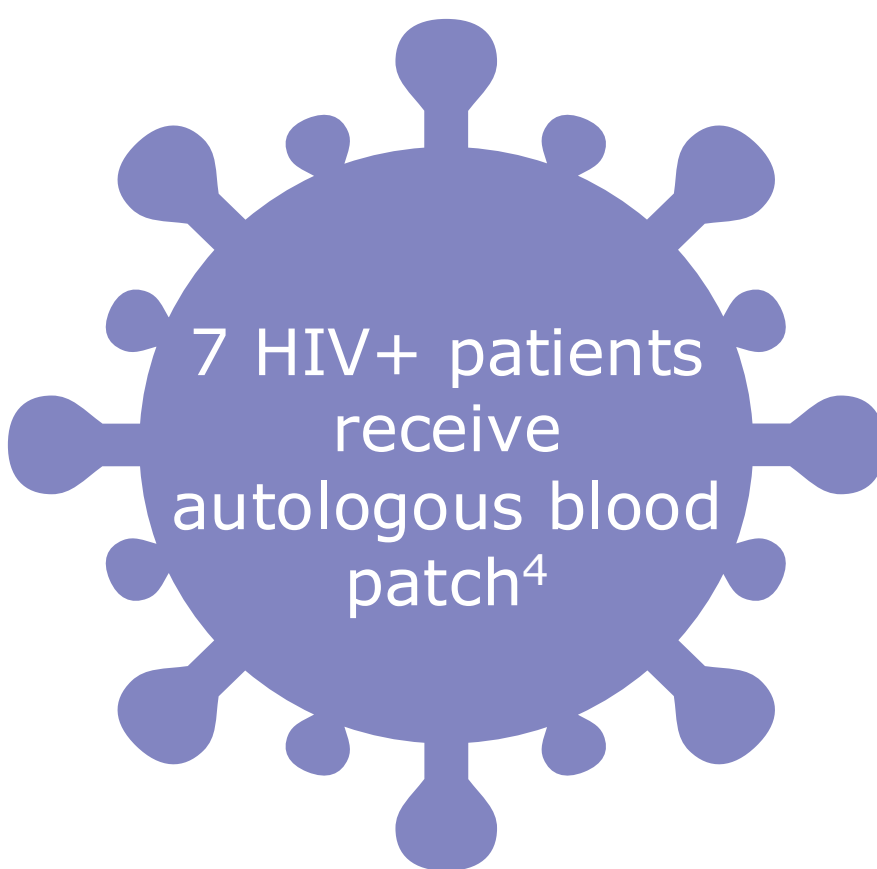
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Background

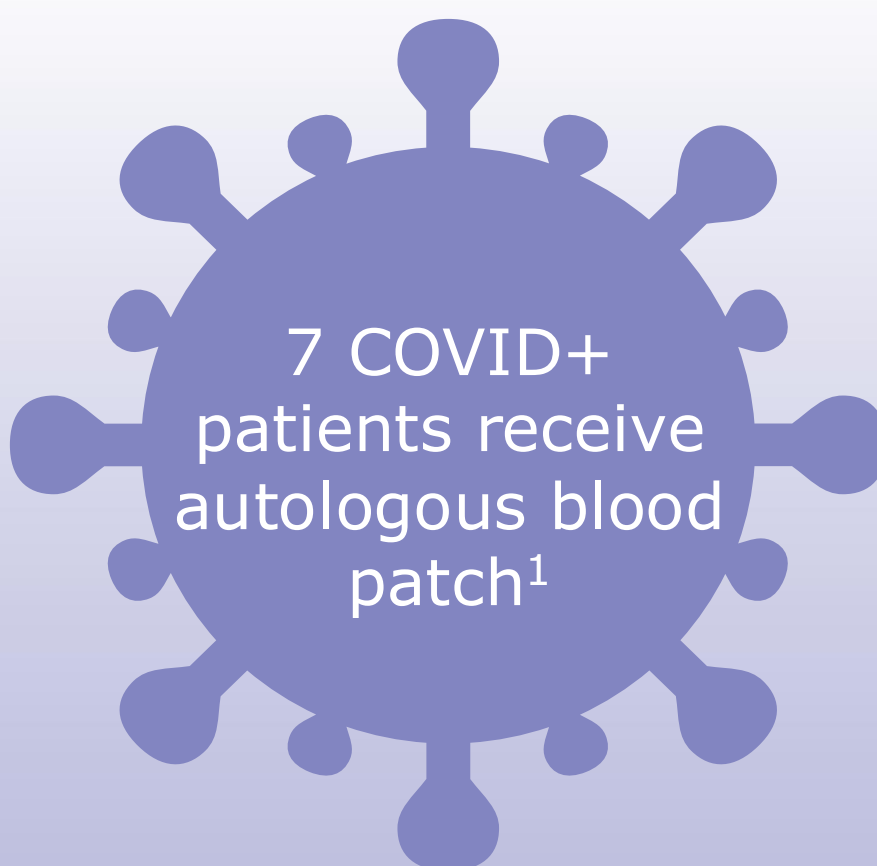
Arachnoiditis is an exceedingly rare yet severe complication of epidural blood patching. With only eight previously published cases, it is difficult to estimate the incidence of arachnoiditis after blood patch⁵. Furthermore, the risks of administering an autologous blood patch in a COVID+ patient are largely theoretical, given the paucity of reported cases.

Blood Patch Outcomes with Active Viremia



7 HIV+ patients receive autologous blood patch⁴

- 6 had no infectious, neurologic, or neurocognitive change after 2 years
- 1 lost to follow up



7 COVID+ patients receive autologous blood patch¹

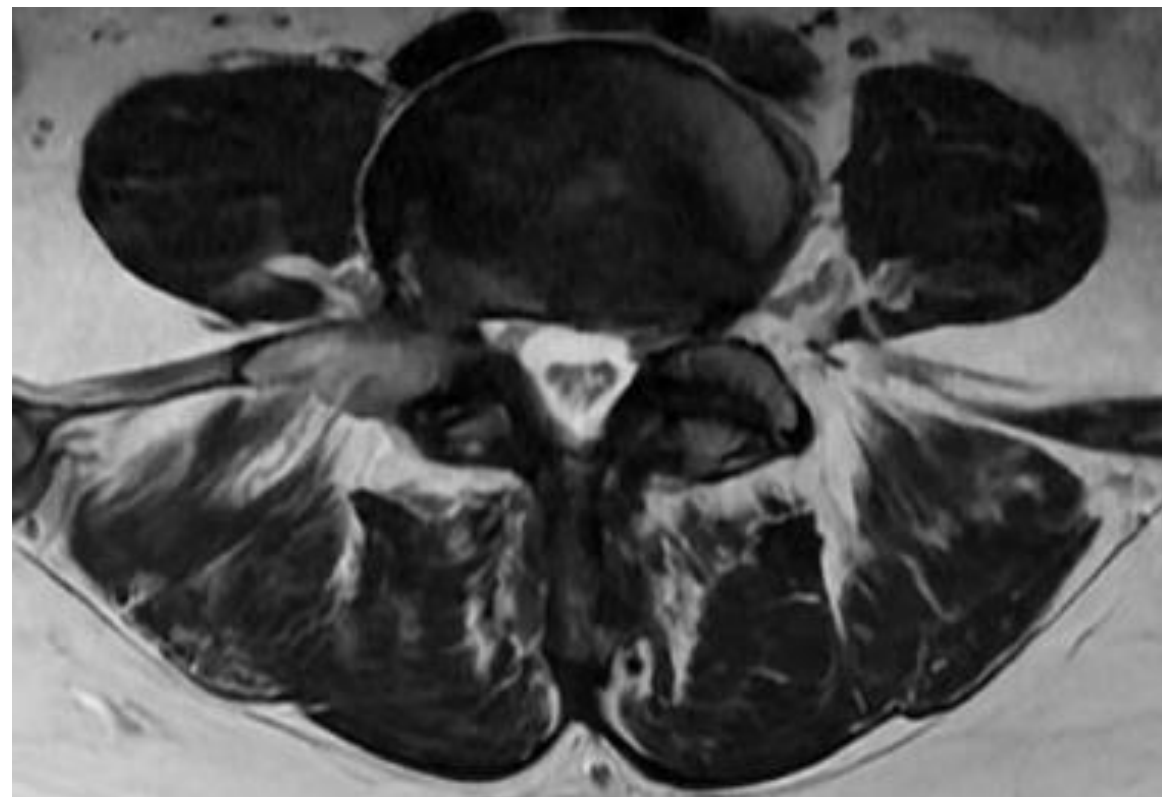
- 5 with asymptomatic COVID had no complications
 - Follow up ranged from 8 days-12 weeks
- 2 with symptomatic COVID had no complications
 - 5- and 10-day follow up, respectively

Case Report

- 59F with **chronic radicular back pain** 2/2 spondylosis
 - LESI typically provides her 70% relief for 2-3 months
- Recent LESI c/b **wet tap** and **positional headache**
- Failed conservative treatment, agreed to blood patch
 - Incidentally **COVID+ at time of blood patch**
 - Headache resolved
- Readmitted 2 weeks later with **incontinence**, lower extremity **weakness**, and MRI c/f **arachnoiditis**
 - Neurosurgery consulted and signed off
- **Ketamine infusion** given for analgesic and anti-inflammatory effects
 - 1 week later, **asymptomatic** and **walking unassisted**
- NCS and EMG within normal limits
- At follow up, incontinence and headache improved
 - Symptoms now reflect her baseline radicular pain
- Patient agrees to repeat ketamine infusion

Discussion

While autologous blood patches have been performed without complications in patients with active viremia, we must not undermine the risk of morbidity due to the low number of reported cases. A more cautious approach is to await resolution of the viremia while expanding conservative treatments to include theophylline, cosyntropin, and greater occipital nerve or sphenopalatine blocks^{2,3}. After a blood patch, signs of arachnoiditis must be addressed promptly. Methylprednisolone has been shown to improve outcomes in arachnoiditis³ and was recommended for our patient, but notably was not initiated by the primary medicine team. We chose ketamine as an alternative treatment with some satisfactory results in this novel case of arachnoiditis after COVID+ blood patch.



T2 MRI at L4-5 level demonstrating root clumping without extrinsic compression, consistent with arachnoiditis.

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