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Blood-Brain Barrier and Choroid Plexus

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Letters

Blood-Brain Barrier and Choroid Plexus

Case 19 in the article by Neuwelt et al. [1] in the July/August 1983 *AJNR* illustrates excessive enhancement of the choroid plexus after intracarotid mannitol infusion. This was attributed to alteration of the blood-brain barrier (BBB). I have also read that the choroid plexus is devoid of BBB [2]. I hope someone can clarify this apparent inconsistency.

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REFERENCES

1. Neuwelt EA, Specht HD, Howieson J, et al. Osmotic blood-brain barrier modification: clinical documentation by enhanced CT scanning and/or radionuclide brain scanning. *AJNR* 1983;4:907-913, *AJR* 1983;141:829-835
2. Sage MR. Review. Blood-brain barrier: phenomenon of increasing importance to the imaging clinician. *AJNR* 1982;3:127-138, *AJR* 1982;138:887-898

Reply

As Dr. Price indicates, case 19 does demonstrate enhancement of the choroid plexus after intracarotid mannitol infusion, which is not

on control enhanced computed tomographic (CT) scans. However, the choroid plexus is not devoid of a BBB or, as more commonly termed, a blood-cerebrospinal fluid (CSF) barrier. The barrier in the choroid plexus is different from that in the other parts of the brain: In the other parts of the brain the tight junctions, which are the basis of the BBB, are between the *endothelial* cells, whereas in the choroid plexus the BBB or blood-CSF barrier is between the *epithelial* cells. That is why when a dye such as Evans blue is injected into an animal, the choroid plexus turns blue and the spinal fluid does not. The Evans blue that binds to albumin is able to penetrate between endothelial cells, thus the staining of the choroid plexus; but it is not able to penetrate between the epithelial cells, which constitute the only barrier between endothelium and the CSF. The basis of the blood-CSF barrier in the choroid plexus is clearly delineated in two books that have been published in recent years on the BBB [1, 2]. I hope this brief summary of literature on the BBB and choroid plexus resolves the question.

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REFERENCES

1. Bradbury M. *The concept of a blood-brain barrier*. New York: Wiley, 1979:35
2. Rapoport SI. *Blood-brain barrier in physiology and medicine*. New York: Raven, 1976:52