Using the model of sound-induced opening of the BBB, Semyachkina-Glushkovskaya et al. clearly show how the brain clears dextran after it crosses the BBB via the meningeal lymphatic vessels. They first demonstrate successful application of optical coherence tomography (OCT) for imaging of the lymphatic vessels in the meninges after opening of the BBB, which might be a new useful strategy for noninvasive analysis of lymphatic drainage in daily clinical practice. Also, we give information about the depth and size of the meningeal lymphatic vessels in mice. These new fundamental data with the applied focus on the OCT shed light on the mechanisms of brain clearance and the role of lymphatic drainage in these processes that could serve as an informative platform for a development of therapy and diagnostics of diseases associated with injuries of the BBB such as stroke, brain trauma, glioma, depression, or Alzheimer disease [1].

[1]

Semyachkina-Glushkovskaya O, Abdurashitov A, Dubrovsky A, Bragin D, Bragina O, Shushunova N, Maslyakova G, Navolokin N, Bucharskaya A, Tuchin V, Kurths J, Shirokov A. Application of optical coherence tomography for in vivo monitoring of the meningeal lymphatic vessels during opening of blood-brain barrier: mechanisms of brain clearing. J Biomed Opt. 2017 Dec;22(12):1-9. doi: 10.1117/1.JBO.22.12.121719. PubMed PMID: 29275545.

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