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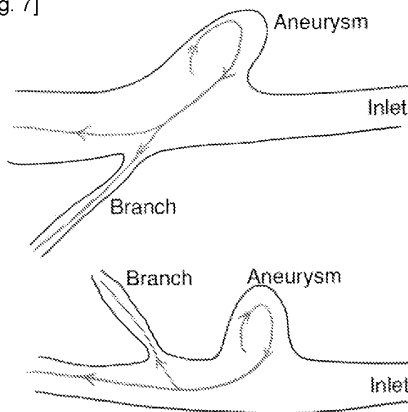
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(54) Title: METHOD AND SYSTEM OF SIMULATIONS FOR PERSONALIZED BRAIN TREATMENTS

[Fig. 7]



(57) **Abstract:** Systems and methods provide a novel approach for decision making and planning of neurovascular treatments and high-fidelity outcome prediction of every potential treatment. The invention, particularly, uses the clinical data of the patients for a personalized treatment planning and simulation in which a personalized anatomical model of the patient is constructed virtually, a neurovascular device implantation may be done virtually and by simulation, a computational fluid dynamics (CFD) simulation is done, and finally by using some post-processing parameters, indices and principles a prediction is made regarding the outcome of each potential treatment. The system comprises one or more processors to receive patient-specific data regarding a geometry of an anatomical structure of the patient and to simulate deployments of different neurovascular devices and their corresponding hemodynamics in anatomical structure models and to generate a report for each potential deployment.

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