

Publication

Automatic identification of critical landmarks on the third ventricle

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As of today, multiple diseases have been associated with shape and volumetric changes in the brain's ventricular system. Undoubtedly, the transport mechanisms in the cerebrospinal fluid play an important role, but the knowledge about the related phenomena is still limited. Computational fluid dynamics calculations, which may shed light on the underlying mechanisms, need detailed, topologically correct models of the ventricles in order to perform realistic flow simulations. In preliminary experiments some anatomical structures have been identified, which have major influence on the flow characteristics. In this paper we propose an automatic method for extraction of those landmarks, which will also be useful in a later stage to initialize and to guide the segmentation process of the third ventricle.

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