

# Diagnosis of Cerebral Venous Thrombosis: The Complementary Value of Imaging Methods

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Over the past three decades, we have witnessed the development, validation and establishment of robust diagnostic modalities for lower extremity venous thrombosis and venous thromboembolism.<sup>1,2</sup> In contrast, thrombosis in rare venous locations remains obscure, often with lack of consensus on the appropriate indications for, and the yield of, imaging diagnostic modalities. A typical example of such a rare (annual incidence rate, 3–4 cases per million in the adult population) entity is cerebral venous or cerebral sinus thrombosis, which may lead to potentially life-threatening cerebral lesions (stroke) and intracranial hypertension, but has a relatively favourable prognosis if diagnosed and treated early. Computed tomographic (CT) scanning and magnetic resonance imaging (MRI) have been presented as alternative diagnostic options, with the MRI more frequently recommended due to its (presumed) higher diagnostic sensitivity.<sup>3</sup> In this issue of the Journal, Xu et al<sup>4</sup> report on a meta-analysis of 24 articles with a total of 4,595 cases, seeking to describe more precisely the diagnostic accuracy of CT and MRI. The criteria for inclusion of the studies in the meta-analysis were well defined, and the diagnostic 'reference standard' reasonable. Despite the disturbing heterogeneity of the studies (particularly those on MRI), and the lack of robust data on the performance of the two methods in different temporal stages of the thrombotic episode, Xu et al were able to retrieve some interesting and potential useful messages. Both the CT and the MRI appeared to have an overall good diagnostic accuracy, but it was suggested that the CT may possess high(er) sensitivity in the acute stage and thus be considered more appropriate as a first-line diagnostic method in the emergency care setting. MRI, on the other hand, particularly with

3.0 Tesla, may be more specific and thus be used to clarify inconclusive CT results as well as for follow-up of patients with diagnosed cerebral vein thrombosis. The study by Xu et al was by no means designed to 'prove' the superiority of CT over MRI or vice versa. It may, however, help clinicians put both methods into perspective and use them more efficiently in a complementary manner, depending on the clinical setting.

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## Conflict of Interest

None.

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