

Clinical evaluation of ¹¹C-Met-avid pituitary lesions using a ZTE-based AC method

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Pituitary tumours account for ~16% of central nervous system tumors and they are the second most frequently reported histology in this group. Due to their small size, pituitary surgery is challenging and precise lesion localization through imaging is therefore a critical factor for a successful outcome.

Simultaneous PET/MR is well suited for lesion identification and localization but it requires accurate attenuation correction to ensure optimal PET imaging. Atlas-based attenuation correction methods are often used for this purpose, as they overcome the difficulty of estimating bone tissue density with conventional MR sequences. However, atlas methods can only partially account for inter-patient variability.

The goal of the present study was to investigate whether direct bone measurement, by means of a zero echo time (ZTE) MR sequence, can significantly improve the accuracy of pituitary tumor imaging with PET.

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