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Reply:

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REPLY:

We appreciate the comments from Jean-François Bonneville on our study entitled "Differentiation between Cystic Pituitary Adenomas and Rathke Cleft Cysts: A Diagnostic Model Using MRI."[1] As Dr Bonneville mentioned, differentiating cystic or hemorrhagic adenoma and Rathke cleft cyst (RCC) is sometimes challenging, and preoperative differentiation of these conditions is important for treatment planning[2,3]; therefore, we suggested a diagnostic tree model for differentiating cystic pituitary adenoma from RCC by using preoperative MR imaging and reported an improved diagnostic accuracy when using the diagnostic tree model.[1]

We agree with Dr Bonneville that pituitary adenomas, especially corticotroph-secreting adenomas, may be on the midline as seen in Fig 5, and 16.7% of pituitary adenomas in our study were also located on the midline.[1] In addition, other imaging findings were seen with various frequencies: fluid-fluid levels in 68.5%, T2-hypointense rims in 75.9%, septations in 38.9% of pituitary adenomas, and intracystic nodules in 67.9% of RCCs. Therefore, we tried to develop a diagnostic tree model that included several imaging features because differential diagnoses are sometimes inconclusive with only 1 or 2 imaging findings. By applying the diagnostic tree model, we were also able to attain high diagnostic accuracy in the validation group (91.7%).[1]

Dr Bonneville also raised concerns about applying the diagnostic tree to subcentimeter lesions. In our study, we included cystic pituitary adenomas and RCCs that were confirmed histopathologically. Small asymptomatic RCCs showing typical imaging features were not treated surgically; therefore, they were not included in our study. Although this omission can be considered a limitation of our study, we think that preoperative differentiation between cystic adenoma and RCC is important in patients who are considered for surgery due to hormonal or nonhormonal symptoms because different surgical procedures are required according to the different diagnoses. The diagnostic tree model may provide guidance to neurosurgeons for appropriate surgical planning.

We agree with Dr Bonneville that intrasellar pituitary adenoma can show mass effects such as a bulging sellar diaphragm and erosion of the body contours of the sella,[4] which we did not include in our diagnostic tree. Therefore, further studies that add these imaging features to the diagnostic tree model will be helpful in the differential diagnosis of cystic pituitary adenoma and RCC.

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