

## 39. クロウン病における小腸カプセル内視鏡の有効性と安全性

内科学（消化器）

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入澤篤志

【背景】クローン病は、炎症の反復により腸管ダメージが蓄積し、狭窄、変形、瘻孔など不可逆的な変化が起こる。各種新薬を含め積極的な治療介入により、手術を回避することが可能となりつつあるが、そのためには臨床的寛解だけでなく粘膜の炎症が完全に沈静化した「粘膜治癒」が必須である。小腸カプセル内視鏡は非侵襲的な小腸検査であり、本邦では2007年に保険適応となり、2012年以降は、消化管開通性確認用カプセル（以下パテンシーカプセル）を用いて消化管の開通性を確認すればCDの小腸病変評価や診断に保険承認されているCDに関する有用性や安全性を示す報告は少なく、当院でのCDに関するCEの有用性、安全性を検討した。

【目的】クローン病におけるカプセル内視鏡の有用性、安全性を評価すること、カプセル内視鏡のスコアリングシステムと臨床症状の相関性を評価することを目的とした。

【方法】CEによるCDの病変検出率、有害事象の発生頻度、既存のCD活動性評価方法とCEによるスコアリングの相関性、CE所見による治療変更の有無を評価した。

【結果】CEによるCDの病変検出率は96.4%であり、有害事象を1例（滞留）認めた。病勢評価のスコアとカプセル内視鏡スコアそれぞれに相関はみられなかった。カプセル内視鏡により治療強化した症例が5例認め、治療の強化に繋がる症例もあった。

【結論】クローン病におけるカプセル内視鏡の有用性、安全性を評価した。クローン病の小腸病変の評価にカプセル内視鏡は有用であり、安全性に関してはより慎重なパテンシーカプセルの運用が必要と思われた。

## 40. Multiparametric MRI Detectable Prostate Cancer : What is the Additional Value of T2-mapping

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【Purpose】

The assessment of prostate cancer using Prostate imaging reporting and data system (PI-RADS version 2) is described with qualitative scoring, not quantitative scoring.

The quantitative values of T2-weighted image (WI) are T2 values and R2 values, while the quantitative values of Diffusion weighted imaging (DWI) is Apparent diffusion coefficient (ADC) values.

The purpose of our study is to evaluate the clinical application of the T2 values, R2 values and ADC values for the diagnosis of visually detectable prostate cancers (PCa).

【Materials and Methods】

We evaluated 76 patients with suspected PCa who had undergone calculated T2WI and DWI between April 2017 and December 2017, retrospectively. The exclusion criteria were (a) prior hormonal or radiation treatment, (b) prior prostate biopsy, (c) no histologically proven cancer after MRI, and (d) no visually detectable cancer on calculated T2WI and DWI.

In each case, the region of interest (ROI) circle was put on the cancerous region and non-cancerous in the peripheral zone (PZ) and transition zone (TZ) as large as possible on the single slice. Then, we measured and recorded T2 and R2 values on T2 and R2 maps, and ADC values on ADC maps for the analysis, such as quantitatively difference between T2, R2 values and ADC values, diagnosability by the area under the ROC curve (AUC).

【Results】

17 patients met the criteria. 13 of 17 lesions were in the peripheral zone (PZ) of the prostate, and the other 4 lesions were in the transition zone (TZ).

The mean T2 values of a cancerous region in PZ, TZ and non-cancerous region in PZ, TZ were following : 781.54, 798.91, 1630.08 and 966.28. The mean R2 values were 1289.38, 1316.22, 107.31 and 1121.60, and the mean ADC values were 754.69, 632.82, 1436.10 and 1182.50, respectively.

There was a statistically significant difference between cancerous and non-cancerous regions (Mann-Whitney U test,  $P < 0.001$ ).

The AUC of ADC values was 1.0 in both PZ and TZ cancer. The AUC of T2 values was 0.996 and 0.875, the AUC of R2 value was 0.996 and 0.847, in PZ and TZ cancer.

T2 values and R2 values were not significantly different in diagnosability. Although there was also no statistically significant difference between ADC values and T2 or R2 values, ADC values tend to be superior quantitative parameters of MRI compared to T2 or R2 values.

【Discussion】

Our results showed T2 values and R2 values in both PZ and TZ were suitable quantitative values for the PCa detection, in addition to ADC values. Several other studies<sup>3,4)</sup> showed T2 values of cancerous regions were significantly lower than non-cancerous regions, which were corresponded with our results.

Comparing to ADC maps, mb-meSE could give not only quantitative (T2 maps), but also anatomical, morphological information (calculated T2WI) of the prostate and PCa.

【Conclusion】

ADC values in DWI are important for the accurate evaluation of visually detectable PCa, however, there was no significant difference with T2 values or R2 values. Quantitative diagnosis using both T2WI and DWI may be effective in patients with PCa.