

## Clinical summary

Medtronic provides the following synopsis of a clinical publication and corresponding discussion points to consider on the TOP100 software tool of the RAPID Reader.

### **Capsule endoscopy: Is the software TOP 100 a reliable tool in suspected small bowel bleeding?**

Arieira, C., Monteiro, S., Dias de Castro, F., et al. *Digestive and Liver Disease*. 2019 Dec; 51(12): 1661-1664

#### **Background**

Small Bowel Capsule Endoscopy (SBCE) is considered the reference standard for diagnostic examinations in subjects with small bowel bleeding (SBB). Despite the acceptability, limitations such as video reading time or difficulty assessing the videos due to poor bowel preparation quality remain. Thus, implementing the use of a software that allows rapid analysis of the videos is of great interest.

#### **Aims**

The aim of this study was to compare the concordance of findings between the standard reading (SR) and the use of TOP 100 in suspected SBB.

#### **Study design**

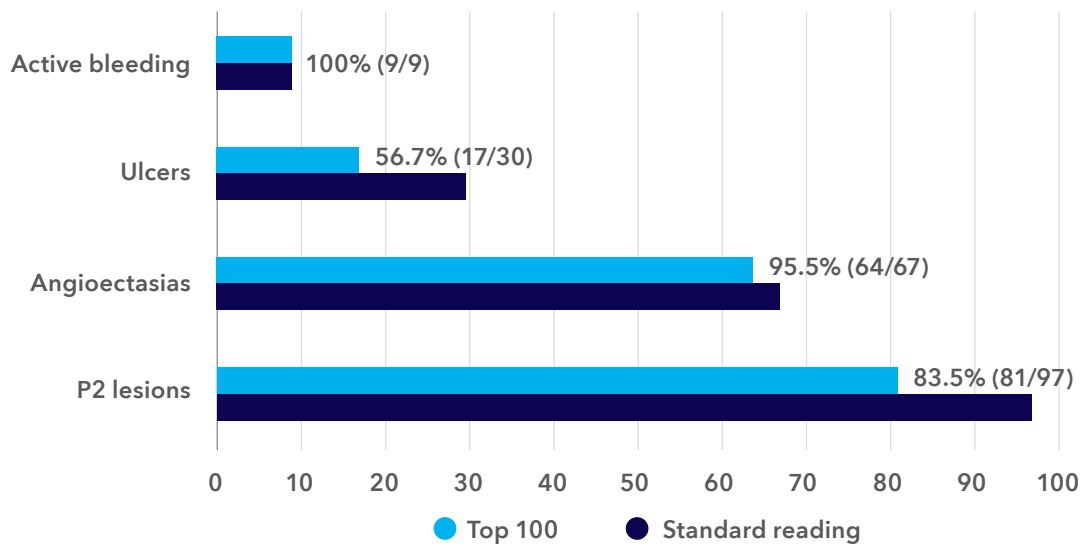
A retrospective single center study (April 2017 through August 2018) of consecutive patients with SBB who underwent SBCE procedures using the PillCam™ SB3 system were included.

#### **Methods**

Subjects with presence of either meatochezia (overt) melana, iron deficiency anemia, or a positive fecal occult blood test (occult) with previous negative esophagogastro-duodenoscopy and ileocolonoscopy were included. All subjects underwent the same bowel preparation which included a clear liquid diet for 24 hours and fasted for 12 hours before SBCE. Patients taking oral iron discontinued the medication at least 5 days before the SBCE examination. Thirty minutes prior to ingestion we administered 100mg of simethicone and 10mg of domperidone per os. Two experienced readers were considered for SR reference, and another experienced reader that was blinded to the SR results used the TOP 100 functionality.

## Key data

- 97 patients with suspected SBB were included in the analysis.
- TOP 100 identified 83.5% of P2 lesions when compared to SR, in particular 95.5% of angioectasias, 56.7% of ulcers, and 100% of active bleeding (see **Figure 1**) in relation to SR results.
- P1 lesions were identified by TOP 100 in 54.5%, 44.4% as red spots, and 61.5% as erosions.



**Figure 1.** Extracted from Arieira et al. 2019 TOP 100 sensitivity for significant findings.

## Discussion, strengths and limitations

This study demonstrated the utility of the TOP 100 functionality of the PillCam™ software v9. It correctly identified most of the lesions, in particular angioectasia, in relation to the SR results. However, limitations include low sample size, study design, and a low sensitivity of P1 lesions. The low sensitivity towards lesions with uncertain bleeding potential (P1) were explained by the authors because of the small quantities of red pixels or minimal difference from the pattern of frames. Those lesions though are not as clinically relevant.

## Conclusion

The TOP 100 is an immediate and automated software feature that allows instantaneous identification of the 100 most important images.

***This concludes the clinical synopsis of this publication***

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