

Double-headed capsule endoscopy: real-world experience from a multicentre British study

D. E. Yung^{1*}, J. Brzeszczynska², I. Rahman³, L. Sinha⁴, R. Sidhu⁵, P. Patel³, S. Mason⁴, M. McAlindon⁵, J. N. Plevris^{1,2}, A. Koulaouzidis¹

¹The Royal Infirmary of Edinburgh, Edinburgh; ²The University of Edinburgh, Edinburgh; ³Southampton General Hospital, Southampton; ⁴Queens Hospital, Romford; ⁵Royal Hallamshire Hospital, Sheffield

Introduction

Capsule endoscopy (CE) is a well-established mode of investigation for small bowel (SB) pathology.

This study examines the potential benefits of using double-headed capsules compared to conventional single-headed ones in a real-world cohort of patients.

We present initial results from the first multicentre British study.

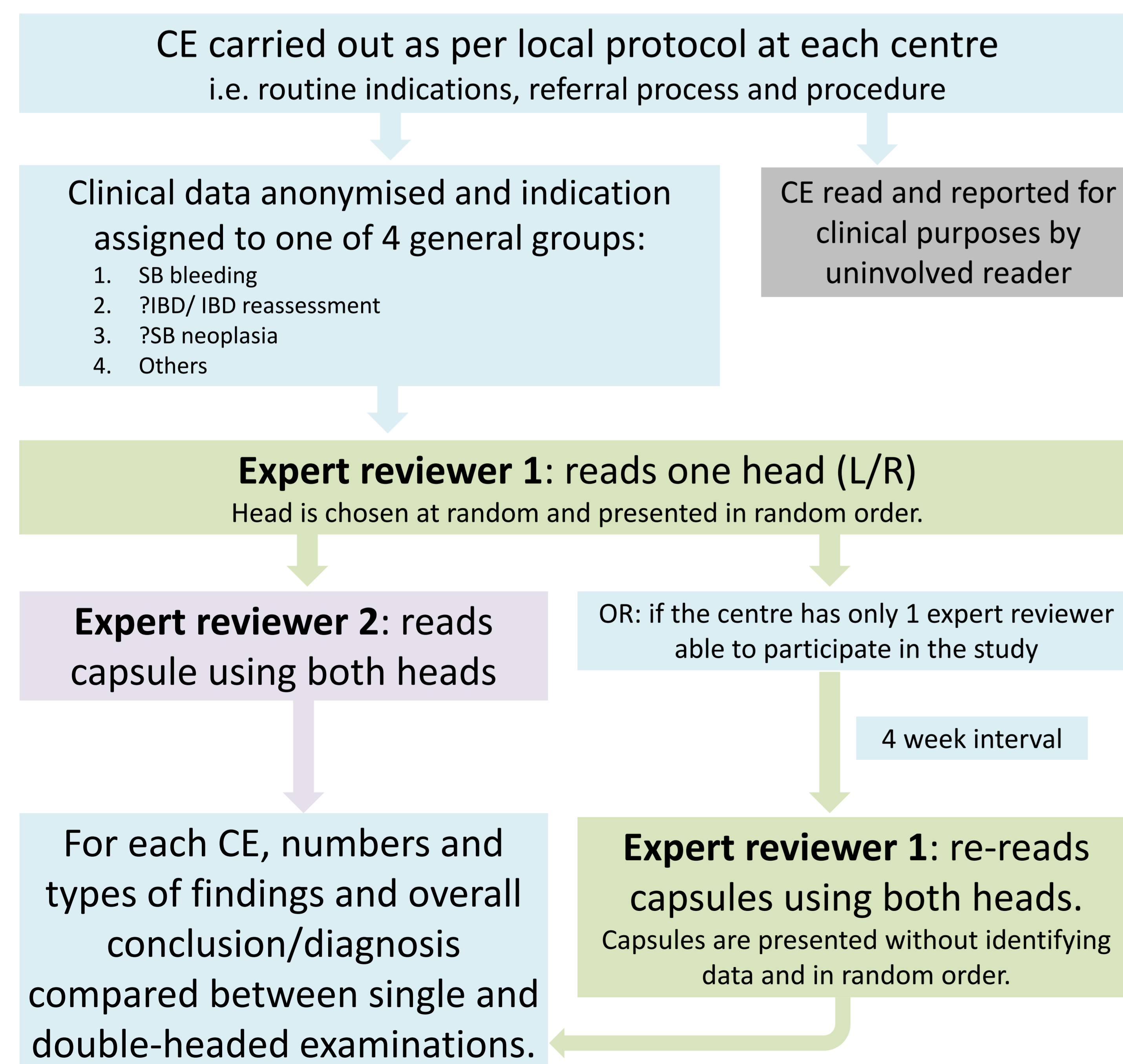


The MiroCam[®] MC2000 capsule used in this study.

Methods

Over a 9-month period, patients referred for routine SBCE at 4 tertiary referral centres in the UK underwent double-headed CE in lieu of conventional single-headed CE, using MiroCam[®] MC2000 capsules.

The study process is detailed below:

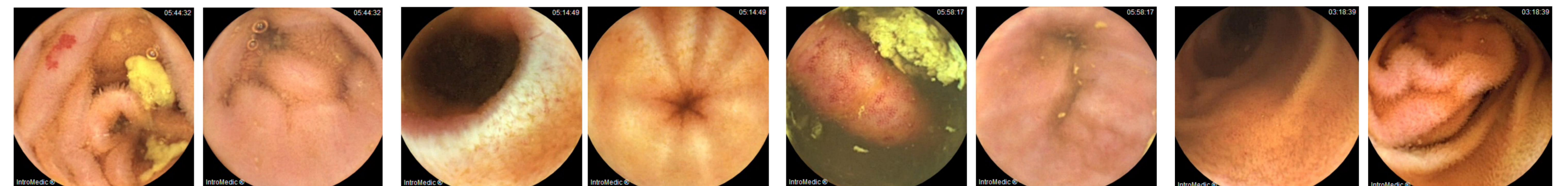


Results

211 CE examinations were performed. 7 failed to reach the SB; 204 cases were analysed.

Overall, the use of two CE heads impacted diagnosis in 30/204 (14.7%) of cases in our cohort.

| Indication | SB bleeding (n=94) | ?IBD/ IBD reassessment (n=84) | ?SB neoplasia including suspicious radiological imaging (n=15) | Others e.g. ?coeliac disease (n=11) |
|---|---|--|--|-------------------------------------|
| No. of CEs where findings differed between heads | 27 (28.7%) | 30 (35.7%) | 2 (13.3%) | 1 (9.1%) |
| Mean numerical difference in findings between heads (range) | 3.4 (0-16) | 4.3 (0-39) | 4 (3-5) | 3 |
| No. of CEs where differences were clinically significant | 17 (18.1%) In 1 CE, no. of findings was same but type was significantly different | 11 (13.1%) In 1 CE, no. of findings was same but type was significantly different | 2 (13.3%) | 0 (0%) |
| Details | Findings missed by single-headed CE: 16 • Angioectasias (5) • SB inflammation (7) • Oesophagitis (2) • SB masses (2) Difference in findings changed assessment of extent/severity: 1 (angioectasias) | Missed findings: 5 • In all, signs of active inflammation missed by single-headed CE Difference in findings changed assessment of extent/severity: 6 | Missed findings: 1 polypoid mass, 1 SB diverticulum | na |



(1) SB bleeding: Angioectasias seen on left head but not on the right.

(2) SB bleeding: Inflammatory changes were seen on both heads, however an area of stenosis was seen only on the left.

(3) Suspected IBD: Caecal inflammation seen on the left but not on the right.

(4) ?neoplasia: Reported as grossly normal on single-headed reading; on double-headed reading there was the suggestion of intussusception (see right frame) which prompted further evaluation and detection of a potential subtle polypoid mass.

Conclusion

The use of double-headed CE provides more information which has the potential to change clinical diagnosis and therefore management. Therefore, the routine adoption of double-headed CE in SB assessment should be considered.