Supplemental material

Supplementary 1: Electronic search strategy of the literature

MEDLINE via PubMed (n. 37)

({“Elasticity Imaging Techniques” or “Elasticity Imaging Technique” or “Imaging Technique, Elasticity” or “Imaging Techniques, Elasticity” or “Technique, Elasticity Imaging” or “Techniques, Elasticity Imaging” or “Tissue Elasticity Imaging” or “Elasticity Imaging, Tissue” or “Elasticity Imagings, Tissue” or “Imaging, Tissue Elasticity” or “Imagings, Tissue Elasticity” or “Tissue Elasticity Imagings” or “Elastography” or “Elastographies” or “Vibro-Acoustography” or “Vibro Acoustography” or “Vibro-Acoustographies” or “Elasticity Imaging Techniques” or “Elasticity Imaging Technique” or “Imaging Technique, Elasticity” or “Imaging Techniques, Elasticity” or “Technique, Elasticity Imaging” or “Techniques, Elasticity Imaging” or “Tissue Elasticity Imaging” or “Elasticity Imaging, Tissue” or “Elasticity Imagings, Tissue” or “Imaging, Tissue Elasticity” or “Imagings, Tissue Elasticity” or “Tissue Elasticity Imagings” or “Elastography” or “Elastographies” or “Vibro-Acoustography” or “Vibro Acoustography” or “Vibro-Acoustographies” or “Magnetic Resonance Elastography” or “Elastographies, Magnetic Resonance” or “Elastography, Magnetic Resonance” or “Magnetic Resonance Elastographies” or “Magnetic Resonance Elastography” or “Magnetic Resonance Elastography” or “Resonance Elastographies, Magnetic” or “Resonance Elastography, Magnetic” or “Sonoelastography” or “Sonoelastographies” or “Acoustic Radiation Force Impulse Imaging” or “ARFI Imagings” or “Imaging, ARFI” or “Imagings, ARFI” or “Elastograms” or “Elastogram” or “US-elastography” or “Ultrasound elastography”)) AND (fibrosis or fibroses or “Intestinal fibrosis” or “fibrotic strictures” or stenosis)) AND (“crohn disease” or Crohn’s Enteritis or Regional Enteritis or Crohn’s Disease or Crohns Disease or “Inflammatory Bowel Disease 1” or Enteritis, Granulomatous or Granulomatous Enteritis or Enteritis, Regional or Ileocolitis or Colitis, Granulomatous or Granulomatous Colitis or “ileitis, Terminal” or “Terminal ileitis” or “ileitis, Regional” or “Regional ileitides” or “Regional ileitis”)

Ovid Embase (n. 25)

EmTree: “Elastography” and “Intestinal fibrosis” and “Crohn’s disease”

Scopus (n. 320)

({“Elasticity Imaging Techniques” or “Elasticity Imaging Technique” or “Imaging Technique, Elasticity” or “Imaging Techniques, Elasticity” or “Technique, Elasticity Imaging” or “Techniques, Elasticity Imaging” or “Tissue Elasticity Imaging” or “Elasticity Imaging, Tissue” or “Elasticity Imagings, Tissue” or “Imaging, Tissue Elasticity” or “Imagings, Tissue Elasticity” or “Tissue Elasticity Imagings” or “Elastography” or “Elastographies” or “Vibro-Acoustography” or “Vibro Acoustography” or “Vibro-Acoustographies” or “Elasticity Imaging Techniques” or “Elasticity Imaging Technique” or “Imaging Technique, Elasticity” or “Imaging Techniques, Elasticity” or “Technique, Elasticity Imaging” or “Techniques, Elasticity Imaging” or “Tissue Elasticity Imaging” or “Elasticity Imaging, Tissue” or “Elasticity Imagings, Tissue” or “Imaging, Tissue Elasticity” or “Imagings, Tissue Elasticity” or “Tissue Elasticity Imagings” or “Elastography” or “Elastographies” or “Vibro-Acoustography” or “Vibro Acoustography” or “Vibro-Acoustographies” or “Magnetic Resonance Elastography” or “Elastographies, Magnetic Resonance” or “Elastography, Magnetic Resonance” or “Magnetic Resonance Elastographies” or “Magnetic Resonance Elastography” or “Magnetic Resonance Elastography” or “Resonance Elastographies, Magnetic” or “Resonance Elastography, Magnetic” or “Sonoelastography” or “Sonoelastographies” or “Acoustic Radiation Force Impulse Imaging” or “ARFI Imagings” or “Imaging, ARFI” or “Imagings, ARFI” or “Elastograms” or “Elastogram” or “US-elastography” or “Ultrasound elastography”)) AND (fibrosis or fibroses or “Intestinal fibrosis” or “fibrotic strictures” or stenosis)) AND (“crohn disease” or Crohn’s Enteritis or Regional Enteritis or Crohn’s Disease or Crohns Disease or “Inflammatory Bowel Disease 1” or Enteritis, Granulomatous or Granulomatous Enteritis or Enteritis, Regional or Ileocolitis or Colitis, Granulomatous or Granulomatous Colitis or “ileitis, Terminal” or “Terminal ileitis” or “ileitis, Regional” or “Regional ileitides” or “Regional ileitis”)

Supplementary 2: Criteria for rating the methodological quality of the studies included (QUADAS-2)

Domain: Patient selection

Risk of bias

Question 1: Was a consecutive or random sample of patients enrolled? “Yes” if consecutive or random sampling was explicitly stated, “no” if non-consecutive or convenience sampling was used, and “unclear” if not reported.

Question 2: Was a case-control study avoided? “Yes” if the study enrolled participants with fibrosis in the bowel wall not previously known (cohort type study), “no” if the study enrolled participants with known fibrosis in the bowel wall and a control group without fibrosis in the bowel wall (case-control study), and “unclear” if not reported.

Question 3: Did the study avoid inappropriate exclusions? “Yes” if all participants with suspected intestinal fibrosis were enrolled, “no” if sub-groups of patients who were more (e.g. strickuring Crohn’s disease patients due to inflammation) or less likely to have intestinal fibrosis in Crohn’s disease were excluded, and “unclear” if the data reported did not allow a judgment.

Concerns regarding applicability

Were there concerns that the included patients and the setting did not match the review question? “No” if all participants had Crohn’s disease, “yes” if some participants did not have Crohn’s disease, and “unclear” if not clearly stated.

Domain: Index test

Risk of bias

Question 1: Were the index test results interpreted without knowledge of the results of the reference standard? “Yes” or “no” if clearly stated, “unclear” if not reported.

Concerns regarding applicability

Are there concerns that the index test, its implementation or its interpretation differed from the review question? “No” if the index test was carried out and interpreted according to the manufacturer’s recommendations, otherwise “yes”.

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Domain: Reference standard

Risk of bias

Question 1: Was the reference standard likely to correctly classify the target condition?
“Yes” if histology or the need for surgical resection after medical treatment was used, otherwise “no”.

Question 2: Were the results from the reference standard interpreted without knowledge of the results from the index test?
“Yes” or “no” if clearly stated, “unclear” if not reported.

Concerns regarding applicability

Were there concerns that the target condition as defined by the reference standard did not match the review question?
“No” if the target condition was defined as fibrotic bowel stricture, “yes” if the definition of the target condition was different, “unclear” if not clearly stated.

Domain: Flow and timing

Risk of bias

Question 1: Was there an appropriate interval between the index test and reference standard?
“Yes” if US elastography was performed within one month before histological examination or surgical bowel resection, otherwise “no”, “unclear” if not clearly specified.

Question 2: Were all patients included in the analysis?
“Yes” if the number of enrolled participants did not differ from that of the participants included in the results, “no” if the participants who were enrolled in the study were excluded from the analysis, and “unclear” if the data were not sufficient to decide.

Rules for producing an overall risk of bias rating for each domain

- If all signalling questions within the domain have “yes” as an answer, the risk of bias for this domain is rated “low”.
- If at least one signalling question within the domain has “no” as an answer, the risk of bias for this domain is rated “high”.
- If at least one signalling question within the domain has “unclear” as an answer while the remaining signalling questions have “yes” as an answer, the risk of bias is rated “unclear”.

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## Supplementary Table 1  Methodological quality assessment of the studies included in the meta-analysis.

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