**MUSCULOSKELETAL ULTRASOUND TO IDENTIFY SUBCLINICAL JOINT AND PERIARTICULAR INVOLVEMENT IN PATIENTS WITH INFLAMMATORY BOWEL DISEASE: A SYSTEMATIC LITERATURE REVIEW**

**Table S1:** Search strategies

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| PubMed | #1 "Inflammatory Bowel Diseases"[Mesh]#2 "Crohn Disease"[Mesh]#3 "Colitis, Ulcerative"[Mesh]#4 "Inflammatory bowel disease"#5 "inflammatory bowel diseases"#6 "Crohn" AND "disease"#7 "ulcerative" AND "colitis"#8 "regional enteritis"#9 "ileitis"#10 "colitis"#11 "proctosigmoiditis"#12 "rectocolitis"#13 "rectosigmoiditis"#14 "ulcerative proctocolitis"#15 "haemorrhagic proctocolitis"#16 OR 1-15#17 "ultrasonography"[MeSH Terms]#18 "ultrason\*"[All Fields]#19 "Ultrasound"[All Fields]#20 "sonograph\*"[All Fields]#21 "ecograph\*"[All Fields]#22 "echotomograph\*"[All Fields]#23 "ultrasonograph\*"[All Fields]#24 # 16 AND #23Limited to Humans, English, Adult, 1980-2021 |
| Embase | #1'echography'/exp OR 'echography'#2ultrasonograph\*#3'ultrasound'#4#1 OR #2 OR #3#5'inflammatory bowel disease'/exp OR 'inflammatory bowel disease' OR 'crohn disease'/exp OR 'crohn disease' OR 'ulcerative colitis'/exp OR 'ulcerative colitis'#6'crohn' AND 'disease'#7'ulcerative' AND 'colitis'#8'regional enteritis'#9'ileitis'#10'colitis'#11'proctosigmoiditis'#12'rectocolitis'#13'rectosigmoiditis'#14'ulcerative proctocolitis'#15'haemorrhagic proctocolitis'#16'proctitis'#17 OR 5-16#18 #4 AND #17Limited to Humans, English, Adult, Embase, 1980-2021 |

***Table S2. Summary of findings:*** Frequency of abnormalities detected by ultrasonography in patients with IBD without a diagnosis of arthritis. IBD: inflammatory bowel disease; CD: Crohn’s Disease; UC: ulcerative colitis; HC: healthy control; MTX: methotrexate; AZA: azathioprine; SSZ: sulphasalazine; TNF: tumor necrosis factor; PDN: prednisone; PD: power Doppler; GS: grey scale; GUESS: Glasgow Ultrasound Enthesitis Scoring System; MASEI: Madrid sonography enthesitis index; R: right; L: left; SpA: spondyloarthritis; OMERACT: outcome measures in rheumatology; MCP: metacarpophalangeal; MTP: metatarsophalangeal.

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| **Study** | **N** | **Population** | **Study design** | **Intervention (US technique)** | **Comparator** | **Results** |
| Bandinelli 2010 (1) | 81 IBD (55 CD and 26 UC)40 HC | Inactive or low active IBD patients without a diagnosis of arthritis.Disease duration 8.8 yearsTreatment: MTX (3/81), AZA (2/81) and anti-TNF-α (8/81) | Case-control | LOGIQ5 General Electric 10-MHzGUESS score (0-36)Quadriceps tendon, proximal rotuleus, distal rotuleus, Achilles tendon and plantar fasciaFor entheses thickness: Balint cut-off for quadriceps >6.1, proximal and distal rotuleus >4mm, Achilles >5.29, plantar fascia >4.4 mm.For vascularity: binary, graded: no flow (Grade 0); mild (Grade 1); moderate (Grade 2); severe (more than three spots) (Grade 3).Total PD: calculated by summing semi-quantitative PD scores of each tendon. | n.a. | ***Total***Thickness: IBD 81.5%; controls 0%Enthesophytes: IBD 67.9%; controls 5%Bursitis: IBD 27.1%, controls 0%Erosions: IBD 16%; controls 0%PD: IBD 16%; controls 0%***Quadriceps***Increased thickness R 34.5%, L 25.9%Enthesophytes R 38.2%, L 4.9%Bursitis R 0%, L 0%Erosions R 2.5%, L 0%PD R 2.5%, L 4.9%***Proximal patellar***Increased thickness R 42%, L 33.3%Enthesophytes R 2.4%, L 2.4%Bursitis R 0%, L 0%Erosions R 3.7%, L 0%PD R 0%, L 3.7%***Distal patellar***Increased Thickness R 58%, L 59.2%Enthesophytes R 7.4%, L 4.9%Bursitis R 21%, L 17.2%Erosions R 3.7%, L 3.7%PD R 3.7%, L 1.2%***Achilles tendon***Increased thickness R 9.9%, L 9.9%Enthesophytes R 56.8%, L 42%Bursitis R 7.4%, L 6.1%Erosions R 1.2%, L 1.2%PD R 0%, L 4.9%***Plantar fascia***Increased Thickness R 16%, L 13.6%Enthesophytes R 3.7%, L 6.1%Bursitis R 0%, L 0%Erosions R 2.5%, L 1.2%PD R 1.2%, L 4.9% |
| Bertolini 2020 (2) | 148 IBD(68 CD, 77 UC) | Consecutive patients with IBD (CD and UC)Treatment: 27/148 on biologics | Cross-sectional | ESAOTE MyLab70 or MyLabClass C, 18 MHz and 13 MHz probeCommon extensor tendon, quadriceps tendon, patellar tendon, tibial tuberosity, Achilles tendon and plantar fascia MASEI and GUESSKnees and ankles: synovial hypertrophy, effusion and articular erosions recorded as present or absent; the flexor and extensor tendons of the feet were evaluated for the presence synovial hypertrophy and fluid distension and PD | n.a. | ***Patient level***Entheseal abnormalities: 87.8%PD + enthesitis: 27.1%Acute entheseal abnormalities: 43.8%Chronic entheseal abnormalities: 83.8%Joint abnormalities: 19.7% |
| Hsiao 2014 (3) | 14 IBD14 HC | Definite diagnosis of IBD (CD and UC)Treatment: PDN 1, TNFi 1,Mesalazine/SSZ 14 | Case-control | GE LOGIQ e, 5-13 MHzPD positive within 2 mm to the bony insertion GUESSFive entheseal sites: superior and inferior poles of the patella, tibial tuberosity, Achilles tendon, plantar aponeurosis.  | n.a. | ***Entheseal level: all percentages refer to the number of entheses******Total***IBD: 42/140 (30%) abnormal sitesHC: 21/140 (15%) abnormal sites***Quadriceps****Thickening*IBD: 8/140 (5.71&)HC: 3/140 (2.14%)*Bursitis*IBD: 11/140 (7.86%)HC: 9/140 (6.43%)*Entesophytes*IBD: 1/140 (0.71%)HC: 0/140 (0%)*Bone erosions*IBD: 0/140 (0%)HC: 0/140 (0%)***Superior patellar*** *Thickening*IBD: 12/140 (8.57%)HC: 9/140 (6.43%)*Bursitis*IBD: 0/140 (0%)HC: 0/140 (0%)*Entesophytes*IBD: 0/140 (0%)HC: 0/140(0%)*Bone erosions*IBD: 0/140 (0%)HC: 0/140 (0%)***Inferior patellar*** *Thickening*IBD: 9/140 (6.43%)HC: 2/140 (1.43%)*Bursitis*IBD: 0/140 (0%)HC: 0/140 (0%)*Entesophytes*IBD: 0/140 (0%)HC: 0/140 (0%)*Bone erosions* IBD: 0/140 (0%)HC: 0/140 (0%)***Achilles tendon*** *Thickening*IBD: 1/140 (0.71%)HC: 0/140 (0%)*Bursitis* IBD: 3/140 (2.14%)HC: 0/140 (0%)*Entesophytes*IBD: 2/140 (1.42%)HC: 0/140 (0%)*Bone erosions*IBD: 0/140 (0%)HC: 0/140 (0%)***Plantar fascia****Thickening*IBD: 0/140 (0%)HC: 0/140 (0%)*Bursitis*IBD: 0/140 (0%)HC: 0/140 (0%)*Entesophytes* IBD: 0/140 (0%)HC: 0/140 (0%)*Bone erosions*IBD: 0/140 (0%)HC: 0/140 (0%) |
| Husic 2021(4) | 47 IBD patients (CD and UC, 33 without SpA)44 HC | Adults with IBDMedian disease duration in years: without SpA: 10; with SpA: 7.5 | Case-control | Esaote MyLab Twice, 18-MHz GS and PD14 entheses: bilateral triceps, lateral epicondyles, distal insertion of quadriceps, proximal and distal insertion of patellar tendon, distal insertion of Achilles tendon and plantar fasciaMASEIModified MASEI on 14 entheses | n.a. | ***IBD pts without SpA*****Positive PD**22 pts (67%)Highest prevalence at lateral epicondyle (67% of all PD positive enthesis)**Erosions**18 pts (15%) Higher prevalence at the distal insertion of patellar tendon (23% of all erosions), triceps tendon (20%) and Achilles tendon (19%) |
| Martinis 2020(5) | 158 IBD, of which 98 without SpA | Adults with IBDMean disease duration (months, sd) 116 (117) | Cross-sectional | Esaote My Lab Twice,18–6 and 13–5MHz PD <2mm from the boy surfaceEnthesitis was defined according to the OMERACT definition.Bilaterally assessment of common extensor tendon insertion, superior and inferior pole of the patella, tibial tuberosity, plantar fascia and Achilles tendon. MASEI and GUESS | n.a. | ***Patients with >1 entheseal abnormality***75/98 (87%)***Patients with >1 acute entheseal change***30/98 (31%)***Patients with>1 enthesis with chronic changes***81/98 (83%)***Patients with>1 enthesis with PD***14/98 (14%) |
| Rodriguez-Caminero 2020(6) | 112 IBD without SpAPaired HC | Adults with IBD | Cross-sectional | GE Logiq 5 PRO; 7–12 MHz.GS and PD12 peripheral joints and 12 entheses: bilateral lateral epicondyle, medial epicondyle, quadriceps tendon, proximal patellar tendon, distal patellar tendon, Achilles tendon, and plantar fascia. | n.a. | **Active enthesitis and/or synovitis**40.2% |
| Rovisco 2016(7) | 76 IBD (43 CD, 33 UC)20 SpA 45 HC | IBD without musculoskeletal symptoms | Cross-sectional | MyLab Twice, MyLab 70XVG, GE LOGIQ P5; 6-18 MHz.Bilateral MCP 2-3, knees, ankles, MTP 1 joints, quadriceps, distal and proximal patellar, Achilles, and plantar aponeurosis entheseal insertion.GS and PDOMERACT definition of entheseal abnormalities | n.a. | ***Patient level – any abnormality******All joints***21/76 (48.8%)***MCPs***3/76 (5.2%)***Knee*** 12/76 (15.8%)***Ankle***7/76 (11.3%)***MTP I***17/76 (22.4%) |
| Ureyen 2018(8) | 43 IBD (12 CD, 31 UC) | IBD with and without musculoskeletal symptomsDisease duration 70.79 (81.5) months | Cross-sectional | GE LOGIQ P9, 7-13MHzBilateral quadriceps tendon, proximal and distal patellar tendon, Achilles tendon, plantar aponeurosis and triceps tendon were examined bilaterally,Hypoechogenicity (0-3), thickening (quantitative), enthesophytes (0-3), calcifications (0-3), erosions (quantitative) and PD (0-3)Inflammation and damage scoreGS and PD | n.a. | ***Site level******Quadriceps***Hypoechogenicity 9/86 (10.5%)Thickening 35/86 (40.7%)PD 2/86 (2.3%)Entesophyte 0/86 (0%)Calcification 0/86 (0%)Erosion 2/86 (2.3%)***Proximal patellar***Hypoechogenicity 4/86 (4.7%)Thickening 56/86 (65.1%)PD 3/86 (3.5%)Entesophyte 1/86 (1.2%)Calcification 1/86 (1.2%)Erosion 2/86 (2.3%)***Distal patellar***Hypoechogenicity 17/86 (19.8%)Thickening 42/86 (48.8%)PD 14/86 (16.3%)Entesophyte 0/86 (0%)Calcification 1/86 (1.2%)Erosion 0/86 (0%)***Achilles tendon***Hypoechogenicity 29/86 (33.7%)Thickening 20/86 (23.3%)PD 18/86 (20.9%)Entesophyte 17/86 (19.8%)Calcification 2/86 (2.3%)Erosion 1/86 (1.2%)***Plantar aponeurosis***Hypoechogenicity 1 (1.2%)Thickening 7 (8.1%)PD 1 (1.2%)Entesophyte 0/86 (0%)Calcification 0/86 (0%)Erosion 0/86 (0%)***Triceps tendon***Hypoechogenicity 0/86 (0%)Thickening 63/86 (73.3%)PD 0/86 (0%)Entesophyte 0/86 (0%)Calcification 0/86 (0%)Erosion 0/86 (0%) |

***Table S3: Summary of findings:*** Frequency of abnormalities detected by ultrasonography in patients with IBD without a diagnosis of arthritis, comparison of Crohn’s disease and ulcerative colitis. IBD: inflammatory bowel disease; CD: Crohn’s Disease; UC: ulcerative colitis; HC: healthy control; MTX: methotrexate; AZA: azathioprine; TNF: tumor necrosis factor; PD: power Doppler; GS: grey scale; GUESS: Glasgow Ultrasound Enthesitis Scoring System; MASEI: Madrid sonography enthesitis index; SpA: spondyloarthritis; OMERACT: outcome measures in rheumatology.

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| **Study** | **N** | **Population** | **Study design** | **Intervention (US technique)** | **Comparator** | **Results** |
| Bertolini 2020 (2) | 148 IBD(68 CD, 77 UC) | Consecutive patients with IBD (CD and UC)Treatment: 27/148 on biologics | Cross-sectional | ESAOTE MyLab70 or MyLabClass C, 18 MHz and 13 MHz probeCommon extensor tendon, quadriceps tendon, patellar tendon, tibial tuberosity, Achilles tendon and plantar fascia MASEI and GUESSKnees and ankles: synovial hypertrophy, effusion and articular erosions recorded as present or absent; the flexor and extensor tendons of the feet were evaluated for the presence synovial hypertrophy and fluid distension and PD | n.a. | ***At least one altered enthesis***CD: 57/68 (83.8%) vs UC: 70/77 (90.2%) (ns)***At least one PD positive enthesitis***CD: 14/68 (21.5%) vs UC: 24/77 (31.6%) (ns)***At least one acute entheseal abnormality***CD: 28/68 (42.4%) vs UC: 34/77 (45.3%) (ns)***At least one chronic entheseal abnormality***CD: 54/68 (79.4%) vs UC: 67/77 (87%) (ns)***At least one joint with abnormalities***CD: CD: 10 (14.7%) vs 18 (23.7%) (ns) |
| Bandinelli 2010 (1) | 81 IBD (55 CD and 26 UC)40 HC | Inactive or low active IBD patients without a diagnosis of arthritis.Disease duration 8.8 yearsTreatment: MTX (3/81), AZA (2/81) and anti-TNF-α (8/81) | Case-control | LOGIQ5 General Electric 10-MHzGUESS score (0-36)Quadriceps tendon, proximal rotuleus, distal rotuleus, Achilles tendon and plantar fasciaFor entheses thickness: Balint cut-off for quadriceps >6.1, proximal and distal rotuleus >4mm, Achilles >5.29, plantar fascia >4.4 mm.For vascularity: binary, graded: no flow (Grade 0); mild (Grade 1); moderate (Grade 2); severe (more than three spots) (Grade 3).Total PD: calculated by summing semi-quantitative PD scores of each tendon. | n.a. | There was no difference in GUESS and PD between CD and UC. |
| Rovisco 2016 | 76 IBD (43 CD, 33 UC)20 SpA 45 HC | IBD without musculoskeletal symptoms | Cross-sectional | MyLab Twice, MyLab 70XVG, GE LOGIQ P5; 6-18 MHz.Bilateral MCP 2-3, knees, ankles, MTP 1 joints, quadriceps, distal and proximal patellar, Achilles, and plantar aponeurosis entheseal insertion.GS and PDOMERACT definition of entheseal abnormalities | n.a. | ***Patient level – any abnormality******All joints***CD 11/43 (25.5%) vs UC 10/33 (30.3%) (ns)***MCPs***CD 3/43 (6.9%) vs UC 0/33 (0%) (ns)***Knee*** CD 4/43 (9.3%) vs UC 8/33 (24.2%) (ns)***Ankle*** CD 4/43 (9.3%) vs UC 3/33 (9.1%) (ns)***MTP I***CD 11/43 (25.5%) vs UC 3/33 (9.1%) (ns) |

***Table S4: Summary of findings:*** Frequency of abnormalities detected by ultrasonography in patients with IBD without a diagnosis of arthritis, comparison of active and inactive IBD. IBD: inflammatory bowel disease; CD: Crohn’s Disease; UC: ulcerative colitis; HC: healthy control; MTX: methotrexate; AZA: azathioprine; TNF: tumor necrosis factor; PD: power Doppler; GS: grey scale; GUESS: Glasgow Ultrasound Enthesitis Scoring System; MASEI: Madrid sonography enthesitis index; CDAI: Crohn Disease Activity Index.

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| **Study** | **N** | **Population** | **Study design** | **Intervention (US technique)** | **Comparator** | **Results** |
| Husic 2021(4) | 47 IBD patients (CD and UC, 33 without SpA)44 HC | Adults with IBDMedian disease duration in years: without SpA: 10; with SpA: 7.5 | Case-control | Esaote MyLab Twice, 18-MHz GS and PD14 entheses: bilateral triceps, lateral epicondyles, distal insertion of quadriceps, proximal and distal insertion of patellar tendon, distal insertion of Achilles tendon and plantar fasciaMASEIModified MASEI on 14 entheses | n.a. | No association was found between clinical IBD activity (CDAI and partial Mayo score) and MASEI, nor between clinical IBD activity and erosion-, PD- and enthesophyte subscores. |
| Bandinelli 2010 (1) | 81 IBD (55 CD and 26 UC)40 HC | Inactive or low active IBD patients without a diagnosis of arthritis.Disease duration 8.8 yearsTreatment: MTX (3/81), AZA (2/81) and anti-TNF-a (8/81) | Case-control | LOGIQ5 General Electric 10-MHzGUESS score (0-36)Quadriceps tendon, proximal rotuleus, distal rotuleus, Achilles tendon and plantar fasciaFor entheses thickness: Balint cut-off for quadriceps >6.1, proximal and distal rotuleus >4mm, Achilles >5.29, plantar fascia >4.4 mm.For vascularity: binary, graded: no flow (Grade 0); mild (Grade 1); moderate (Grade 2); severe (more than three spots) (Grade 3).Total PD: calculated by summing semi-quantitative PD scores of each tendon. | n.a. | There was no difference in GUESS and PD between IBD remittent (46 CD and 22 UC) and low active (9 CD and 4 UC). |

***Table S5: Summary of findings:*** Frequency of abnormalities detected by ultrasonography in patients with IBD without a diagnosis of arthritis, comparison based on disease duration. IBD: inflammatory bowel disease; CD: Crohn’s Disease; UC: ulcerative colitis; HC: healthy control; MTX: methotrexate; AZA: azathioprine; TNF: tumor necrosis factor; PD: power Doppler; GS: grey scale; GUESS: Glasgow Ultrasound Enthesitis Scoring System; MASEI: Madrid sonography enthesitis index; NS: not significant.

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| **Study** | **N** | **Population** | **Study design** | **Intervention (US technique)** | **Comparator** | **Results** |
| Bandinelli 2010 (1) | 81 IBD (55 CD and 26 UC)40 HC | Inactive or low active IBD patients without a diagnosis of arthritis.Disease duration 8.8 yearsTreatment: MTX (3/81), AZA (2/81) and anti-TNF-a (8/81) | Case-control | LOGIQ5 General Electric 10-MHzGUESS score (0-36)Quadriceps tendon, proximal rotuleus, distal rotuleus, Achilles tendon and plantar fasciaFor entheses thickness: Balint cut-off for quadriceps >6.1, proximal and distal rotuleus >4mm, Achilles >5.29, plantar fascia >4.4 mm.For vascularity: binary, graded: no flow (Grade 0); mild (Grade 1); moderate (Grade 2); severe (more than three spots) (Grade 3).Total PD: calculated by summing semi-quantitative PD scores of each tendon. | n.a. | GUESS and tPD did not correlate with disease duration. |
| Bertolini 2020 (2) | 148 IBD(68 CD, 77 UC) | Consecutive patients with IBD (CD and UC)Treatment: 27/148 on biologics | Cross-sectional | ESAOTE MyLab70 or MyLabClass C, 18 MHz and 13 MHz probeCommon extensor tendon, quadriceps tendon, patellar tendon, tibial tuberosity, Achilles tendon and plantar fascia MASEI and GUESSKnees and ankles: synovial hypertrophy, effusion and articular erosions recorded as present or absent; the flexor and extensor tendons of the feet were evaluated for the presence synovial hypertrophy and fluid distension and PD | n.a. | ***At least one altered enthesis***>12 months 85/98 (90%) vs <12 months 38/53 (72%), p = 0.003***At least one enthesis with erosions***>12 months 7/98 (7.4%) vs <12 months 0/53 (0%), p = 0.04***GUESS (mean,sd)***>12 months 5.2 (3.5) versus 5.0 (3.8) , p = NS***MASEI (mean,sd)***>12 months 5.2 (3.5) versus 5.0 (3.8) , p =NS |
| Ureyen 2018 | 43 IBD (12 CD, 31 UC) | IBD with and without musculoskeletal symptomsDisease duration 70.79 (81.5) months | Cross-sectional | GE LOGIQ P9, 7-13MHzBilateral quadriceps tendon, proximal and distal patellar tendon, Achilles tendon, plantar aponeurosis and triceps tendon were examined bilaterally,Hypoechogenicity (0-3), thickening (quantitative), enthesophytes (0-3), calcifications (0-3), erosions (quantitative) and PD (0-3)Inflammation and damage scoreGS and PD | n.a. | Disease duration was independent of inflammation and damage scores. |

***Table S6: Summary of findings:*** value of ultrasonographic findings in making a diagnosis of arthritis in patients with IBD without a diagnosis of arthritis. IBD: inflammatory bowel disease; CD: Corhn’s disease; UC: ulcerative colitis; MASEI: Madrid sonography enthesitis index; GUESS: Glasgow Ultrasound Enthesitis Scoring System; Se: sensitivity; Sp: specificity; LR+: positive likelihood ratio; LR-: negative likelihood ratio; PPV: positive predictive value; NPV: negative predictive value; GS: grey scale; PD: power Doppler; SpA: spondyloarthritis.

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| **Study** | **N** | **Population** | **Study design** | **Intervention (US technique)** | **Reference standard** | **Results** |
| Bertolini 2020(2) | 148 IBD(68 CD, 77 UC) | Consecutive patients with IBD (CD and UC)27/148 on biologics | Cross-sectional | ESAOTE MyLab70 or MyLabClass C, 18 MHz and 13 MHz probeCommon extensor tendon, quadriceps tendon, patellar tendon, tibial tuberosity, Achilles tendon and plantar fascia MASEI and GUESSKnees and ankles: synovial hypertrophy, effusion and articular erosions recorded as present or absent; the flexor and extensor tendons of the feet were evaluated for the presence synovial hypertrophy and fluid distension and PD | ASAS criteria | **At least one joint with US abnormalities**Se (95%CI) 0.32 (0.20,0.46)Sp (95%CI) 0.88 (0.79,0.94)LR+ (95%CI) 2.69 (1.37,5.27)LR- (95% CI) 0.77 (0.63,0.94)PPV (95%CI) 0.62 (0.45,0.76)NPV (95%CI) 0.68 (0.64,0.72)**At least one enthesis with US abnormalities**Se (95%CI) 0.87 (0.76,0.95)Sp (95%CI) 0.15 (0.08,0.24)LR+ (95%CI) 1.03 (0.9,1.18)LR- (95% CI) 0.82 (0.35,1.91)PPV (95%CI) 0.38 (0.35,0.42)NPV (95%CI) 0.66 (0.46,0.82)**At least one chronic entheseal abnormality**Se (95%CI) 0.86 (0.74,0.97)Sp (95%CI)0.17 (0.10,0.27)LR+ (95%CI) 1.04 (0.9,1.20)LR- (95% CI) 0.82 (0.38,1.79)PPV (95%CI) 0.39 (0.35,0.42)NPV (95%CI) 0.66 (0.47,0.81)**At least one acute entheseal abnormality**Se (95%CI) 0.59 (0.45,0.72)Sp (95%CI) 0.65 (0.55,0.75)LR+ (95%CI) 1.69 (1.19,2.42)LR- (95% CI) 0.63 (0.44,0.89)PPV (95%CI) 0.51 (0.42,0.59)NPV (95%CI) 0.72 (0.65,0.79)**At least one enthesis with PD**Se (95%CI) 0.52 (0.38,0.65)Sp (95%CI) 0.87 (0.78,0.93)LR+ (95%CI) 3.97 (2.21,7.13)LR- (95% CI) 0.55 (0.42,0.74)PPV (95%CI) 0.70 (0.57,0.81)NPV (95%CI) 0.74 (0.69,0.79) |
| Husic 2021(4) | 47 IBD patients (CD and UC, 33 without SpA)44 HC | Adults with IBDMedian disease duration in years: without SpA: 10; with SpA: 7.5 | Case-control | Esaote MyLab Twice, 18-MHz GS and PD14 entheses: bilateral triceps, lateral epicondyles, distal insertion of quadriceps, proximal and distal insertion of patellar tendon, distal insertion of Achilles tendon and plantar fasciaMASEIModified MASEI on 14 entheses | Clinical diagnosis | **Entheseal PD** Se (95%CI) 0.64 (0.35,0.87)Sp (95%CI) 0.33 (0.18,0.52)LR+ (95%CI) 0.96 (0.61,1.53)LR- (95% CI) 1.07 (0.46,2.51)PPV (95%CI) 0.29 (0.17,0.45)NPV (95%CI) 0.69 (0.48,0.84)**Entheseal erosions**Se (95%CI) 0.79 (0.49,0.95)Sp (95%CI) 0.45 (0.28,0.64)LR+ (95%CI) 1.44 (0.95,2.18)LR- (95% CI) 0.47 (0.16,1.37)PPV (95%CI) 0.38 (0.29,0.48)NPV (95%CI) 0.83 (0.63,0.94) |
| Martinis 2020(5) | 158 IBD, of which 98 without SpA | Adults with IBDdisease duration (months, sd) 116 (117) | Cross-sectional | Esaote My Lab Twice,18–6 and 13–5MHz PD <2mm from the bony surfaceEnthesitis was defined according to the OMERACT definition.Bilaterally assessment of common extensor tendon insertion, superior and inferior pole of the patella, tibial tuberosity, plantar fascia and Achilles tendon. MASEI and GUESS | ASAS criteria | **At least one acute change**Se (95% CI) 0.61 (0.45,0.75)Sp (95% CI) 0.67 (0.57,0.76)LR+ (95% CI) 1.84 (1.30,2.62)LR- (95% CI) 0.58 (0.40,0.86)PPV (95% CI) 0.43 (0.35,0.52)NPV (95% CI) 0.80 (0.74,0.86)**At least one chronic change**Se (95% CI) 0.76 (0.62,0.83)Sp (95% CI) 0.17 (0.10,0.25)LR+ (95% CI) 0.92 (0.77,1.09)LR- (95% CI) 1.41 (0.75,2.69)PPV (95% CI) 0.29 (0.25,0.32)NPV (95% CI) 0.61 (0.45,0.75)**PD**Se (95% CI) 0.56 (0.41,0.71)Sp (95% CI) 0.84 (0.76,0.90)LR+ (95% CI) 3.75 (2.25,6.18)LR- (95% CI) 0.51 (0.37,0.73)PPV (95% CI) 0.60 (0.48,0.71) NPV (95% CI) 0.82 (0.77,0.87) |

**References**

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