Supplementary Table S1. Conferences, web links for abstract archive or abstract books, search terms used, and final number of abstracts.

Conference (2018-2022)	Abstract archive	Search terms	Number of abstracts
American College of Rheumatology Annual Meeting	https://acrabstracts.org/	Myopathies criteria Myopathy criteria Myositis criteria	9
European Alliance of Associations for Rheumatology	http://scientific.sparx-ip.net/archiveeular/	Myositis	10
American Academy of Dermatology	https://eposters.aad.org/search	Dermatomyositis	9
Society for Investigative Dermatology Meeting	https://www.sidnet.org/annualmeeting/past-meetings/	Dermatomyositis	0
European Academy of Dermatology and Venereology (only 2022)	https://eadv.org/scientific/abstract-books/	Dermatomyositis	0
World Dermatology Conference (only 2019)	https://www.wcd2019milan-dl.org/abstract-book/assets/html/abstracts/07-autoimmune-connective-tissue-diseases.html	Dermatomyositis	0
International Congress on Neuromuscular Diseases	https://content.iospress.com/articles/journal-of-neuromuscular-diseases/jnd189001 https://content.iospress.com/journals/journal-of-neuromuscular-diseases/8/s1 https://content.iospress.com/journals/journal-of-neuromuscular-diseases/9/s1	Myositis	0
Global Conference on Myositis	https://bmcrheumatol.biomedcentral.com/articles/10.1186/s41927-019-0078-3 https://www.clinexprheumatol.org/abstract.asp?a=19411	Myositis criteria	2
American Academy of Neurology	https://www.aan.com/events/on-demand-and-past-events	Myositis criteria	1
World Muscle Society	https://www.worldmusclesociety.org/page/past-world-muscle-society-congresses	Myositis criteria	0
Muscle Study Group	https://onlinelibrary.wiley.com/toc/10974598/2018/58/S1 https://onlinelibrary.wiley.com/toc/10974598/2019/60/S2 https://journals.ku.edu/rrnmf/article/view/14646 https://journals.ku.edu/rrnmf/article/view/15849 https://journals.ku.edu/rrnmf/issue/view/2135	Myositis criteria	0

Supplementary Table S2. Descriptive results of all the included articles (n=19).

#	Study	Study design	N	Study population	Country	Gold standard	Performance characteristics of the EULAR-ACR criteria	Performance characteristics of any other criteria reported
1	Valenzuela *et al*. 2022	Single-centre, retrospective	130 adults, 21 children with IIM	Mean age (SD): 43.3±22.5 78% female 100% Hispanic/Latino	Chile	Physician diagnosis	Sensitivity: DM 86%, PM 73% Specificity: DM 85%, PM 87%	Bohan-Peter Sensitivity: DM 85%, PM 93% Specificity: DM 82%, PM 77%
2	So *et al* .2022	Multicentre, retrospective	120 adults with anti-MDA-5(+) IIM	Mean age (SD): 52.7±12.6 55% female 97.5% Chinese, 1.7% Indonesian, 0.83% Malaysian	Hong Kong, China	Physician diagnosis	Classified 71.7% of these patients as probable/definite IIM [64% as CADM, 31.4% as DM, and 1.2% as PM]	Bohan-Peter criteria classified 40.8% of these patients as probable/definite IIM. Bohan-Peter combined with Sontheimer CADM criteria classified 76.7% Casal-Dominguez modified criteria identified all patients as MDA-5(+) IIM.
3	Zoske *et al*. 2021	Single-centre, retrospective	30 patients with DM	Mean age: 54.23 9.7% female Race or ethnicity not reported	Germany	Physician diagnosis	53.3% had high, 43.3% had medium, and 3.3% had low probability of having IIM	NMC 2003 criteria classified 46.7% as definite DM, 40% E as probable DM, 10% as possible DM sine dermatitis, and 3.3% as amyopathic dermatomyositis
4	Casal-Dominguez *et al*. 2022	Multicentre, retrospective	524 patients with MSA(+) IIM [An additional random sample of 500 MSA(-) IIM patients were also used]	Mean age: 48.3 ± 14.3 69% female 68% white, 22% black, and 10% other	USA (external validation cohorts from Spain and USA)	Physician diagnosis	Correctly classified 91% of patients with MSA(+) IIM as having IIM Misclassified 23% of patients with MSA(-) IIM as having non-myositis	Myositis-specific antibodies outperformed the EULAR-ACR criteria to predict clinical phenotypes; thus, MSA-based criteria were proposed and independently tested at Hopkins, NIH, and Vall d'Hebron hospital showing perfect sensitivity and specificity in all.
5	Sand Wan Chung *et al*. 2021	Multicentre, retrospective	108 adult patients	Mean age: 50.6 ± 13.9 73.1% female Race/ethnicity not reported	S. Korea	Bohan-Peter or 2004 ENMC criteria	Classified 53.2% of patients as DM and 46.8% as PM	2004 ENMC criteria classified 44.3% as PM, 53.2% as DM, 1.3% as DM sine dermatitis and 1.3% as IMNM Senacal classified 75.9% as overlap myositis, 10.1% as pure classic DM, 12.7% as pure PM
6	Sag *et al*. 2021	Single centre, retrospective	58 children with JDM	Mean age: 8.1 ± 4.3 60.3% female 100% Turkish	Turkey	Expert consensus	Sensitivity for JDM: 96.5% S pecificity for JDM: 85%	Tanimoto criteria: Sensitivity: 64%, Specificity: 97.5% Bohan-Peter criteria: Sensitivity: 74.1%, Specificity: 92.5%
7	Yamazaki *et al*. 2021	Multicentre, retrospective	68 children with juvenile IIMs (JIIM) and 49 non-JIIM patients	Median age [IQR]: 6 [3-9] 61.7% female Race not reported, but likely Japanese	Japan	Physician diagnosis	Sensitivity for JIIM: 2.1% with muscle biopsy data, 86.7% without muscle biopsy data, 89.7% in total cohort Specificity for JIIM: 100% with muscle biopsy data, without muscle biopsy, and in total cohort	Tanimoto criteria: Sensitivity for JIIM: 64.7% Specificity for JIIM: 100% Bohan-Peter criteria: Sensitivity for JIIM: 80.9% Specificity for JIIM: 100%
8	Luu *et al*. 2019	Multicentre retrospective	204 patients (87 with IIM, 117 with non-IIM)	Mean age: 57.43 ± 15.77 56% females Race/ethnicity not reported, likely Australian	Australia	Physician diagnosis	Without muscle biopsy data for IIM (complete cases): Sensitivity: 68%, Specificity: 98% With muscle biopsy data for IIM: Sensitivity: 65%, Specificity: 95%	Bohan-Peter criteria: Sensitivity for IIM: 62%, Specificity for IIM: 87% Targoff criteria: Sensitivity for IIM: 50%, Specificity for IIM 100%
9	Barsotti *et al*. 2020	Single-centre, retrospective	439 patients, including 14 patients with juvenile onset	Mean age: 53.7 ± 16.9 63.1% female Race/ethnicity not reported, likely Swedish	Sweden	Physician diagnosis	Sensitivity: PM: 73%, DM: 90%, IBM: 98%, Total 87.7% Specificity: PM: 99%, DM: 100%, IBM: 98%	Bohan-Peter criteria: Sensitivity: PM: 91%, DM: 94% Specificity: PM: 70%, DM: 89%
10	Yoo *et al*. 2021	Single-centre, retrospective	121 adults (72 PM, 49 DM)	Mean age: 60.5 ± 16.0 in PM, 54.4 ± 15.0 in DM group Gender: 78.7% female in PM, 69.4% female in DM Race/ethnicity not reported, likely Korean	S. Korea	Bohan-Peter criteria	N/A	Concordance rate between Bohan-Peter and EULAR-ACR criteria: PM: 95.8% in all, 100% with muscle biopsy data, 80% without muscle biopsy data DM: 83.7% in all, 100% with muscle biopsy data and 52.2% without muscle biopsy data

11	Jinnin *et al*. 2020	Multicentre, retrospective	420 adults with IIM, 402 adults with non-IIM	Mean age: 53.9 ± 15.4 69.8% female Race/ethnicity not reported, likely Japanese	Japan	Physician diagnosis	Sensitivity for IIM: 87.4% in total cohort, 87.2% with muscle biopsy, 87.6% without muscle biopsy Specificity for IIM: 92.4% in total cohort, 77.4% with muscle biopsy, 95.1% without muscle biopsy	Bohan-Peter criteria: Sensitivity for IIM: 88.4% Specificity for IIM: 88.3% Tanimoto criteria: Sensitivity for IIM: 82.2% Specificity for IIM: 87.8%
12	To *et al*. 2019	Single centre, retrospective	309 adults with IIM, with 78 anti-Jo1 (-) antibodies but with alternative MSA	Mean age: 55.6 62.8% female Race/ethnicity not reported	UK	Physician diagnosis	Classification with/without inclusion of non-anti-Jo1 MSA respectively: Definite IIM 73.1%/96.2% Probable IIM 16.7%/3.8% Possible IIM 0/0 Non-IIM 10.3%/0	N/A
13	Zhang *et al*. 2019	Retrospective, single centre	221 patients, (106 IIM, 115 non-IIM, including 40 children)	Mean age: 43.0 ± 22.3 61.3% female Race/ethnicity not reported, likely Chinese	China	Physician diagnosis	Sensitivity for IIM: 87.7% in all, 82.9% with muscle biopsy data, 92.7% without muscle biopsy data Specificity for IIM: 90.4% in all, 90.2% with muscle biopsy data, 87% without muscle biopsy data PPV: 89.4% in all, 90.1% with muscle biopsy data NPV: 88.9% in all, 90.4% with muscle biopsy data Agreement with clinical diagnosis was good w 0.782 (kappa)	Bohan-Peter criteria: Sensitivity for IIM: 84.0%, Specificity for IIM: 52.2% PPV: 61.8% in all, 97.2% with muscle biopsy data NPV: 77.9% in all, 27.8% with muscle biopsy data Agreement with clinical diagnosis was poor w 0.356 (kappa)
14	Greco *et al*. 2019	Retrospective, multi centre	37 adults with suspected IIM or ASSD and positive anti-synthetase antibody	Mean age: 50.5 ± 14.0 70.3% female Race/ethnicity not reported, likely Spanish	Spain	Clinical suspicion and a positive ASSD antibody	59.5% met EULAR/ACR criteria All patients with Anti-Jo1-ARS met EULAR/ACR criteria (11 probable, 6 definitive), only 25% of those with non-Jo-1 ARS met EULAR/ACR criteria If non-anti-Jo1-ARS had the weight of Anti-Jo1-ARS, 95% of patients with non-Anti-Jo1 would meet the ACR/EULAR criteria	45.9% met Solomon`s Criteria
15	Pinto *et al*. 2019	Retrospective, single centre	111 patients including 11 with juvenile-onset	Mean age: 38.2 78.4% female Race/ethnicity not reported, likely Indian	India	Expert group consensus	Classified as probable/definite IIM in 80.2% in overall, 82% in those without biopsies, and 80.8% in those with biopsy	Bohan-Peter criteria: Classified 83.8% as probable/definite myositis in overall, 73% in those without biopsies, and 96.2% in those with biopsy The agreement between EULAR-ACR and Bohan-Peter criteria was poor (kappa 0.331)
16	Parker *et al*. 2019	Single-centre, retrospective	225 patients (PM: 14,5%, DM: 23.4%, IBM:22.0%, ASSD:13.3%, OM:12.5)	Mean age: 55.3 ± 15.1 61.6% female Race/ethnicity not reported	UK	Expert group consensus	Sensitivity for IIM: 99.6% Sensitivity: PM: 100%, DM: 94.7%, IBM: 100%, ADM: 100% Specificity: PM: 60.1%, DM: 96.5%, IBM: 100%, ADM: 100%	N/A
17	Hocevar *et al*. 2018	Single centre, retrospective	167 adults (95 IIM, 72 controls)	Median age [IQR]: 62.5 [52.3-71.3] 72.6% female Race/ethnicity not reported, likely Slovenian	Slovenia	Physician diagnosis	Sensitivity for IIM: 80.5% with muscle biopsy result, 74.7% without muscle biopsy. Specificity for IIM: 90.3% with muscle biopsy, 80.6% without muscle biopsy result	N/A
18 8	Patel *et al*. 2018	Single centre, retrospective	99 patients with ADM	Mean age: 51.9 ± 13.3 84.8% female 9.1% white, 6.2% African-American, 3.8% Asian and 0.9% other	USA	Sontheimer criteria	76% of ADM met the EULAR-ACR criteria for DM (≥55% probability score)	N/A
19	Mohammad *et al*. 2020	Single centre, retrospective	26 adults satisfying either 2017 EULAR-ACR or Bohan-Peter criteria	Mean age of DM was 46.3 ± 12.8, PM was 40.3 ± 10.8 Female 78.6% for DM and 50% for PM Race not written, like South Indian	India	Physician diagnosis	N/A	N/A

IIM: idiopathic inflammatory myopathies; PM: polymyositis; DM: dermatomyositis; ASSD: anti-synthetase syndrome; IBM: inclusion body myositis; OM: overlap myositis; CADM: clinically amyopathic dermatomyositis; JIIM: juvenile idiopathic inflammatory myopathies; MSA: myositis-specific autoantibody; MAA: myositis-associated autoantibody; N/A: not applicable; PPV: positive predictive value; NPV: negative predictive value.

Supplementary Table S3. Descriptive results of all the conference abstracts included (n=13).

#	Study	Study design	N	Study Population	Country	Gold standard	Performance characteristics of the 2017 EULAR-ACR Criteria	Performance characteristics of any other criteria reported
1	Meyer *et al*. 2019 ACR	Two centres, retrospective	70 patients with scleromyositis	Mean age at myositis onset: 51.5 ± 15.8 78.7% female	Unclear if Canada or France	Expert opinion	Of 70 patients with scleromyositis diagnosis, 56% fulfilled the criteria for myositis (n=21, 14, 4 for definite, probable, possible, respectively)	N/A
2	Virasoro *et al*. 2019 ACR	Retrospective (not known how many centres)	132 patients with IIM	Mean age at myositis diagnosis 45 ± 17 77% female	Argentina	Physician diagnosis	Sensitivity was 73% for definite and 61.9% for probable IIM when physician diagnosis was used as gold standard. Sensitivity was 86% for IIM when Bohan-Peter criteria was used as gold standard	 N/A
3	Yogeesh *et al*. 2022 AAN	Single centre, retrospective and prospective	75 patients with muscle biopsy	All patients with age > 14 years were recruited	India	Not specified	EULAR-ACR: Classified 35% as DM, 50% as PM, 5% as JDM, 8.6% as IBM. Moderate agreement between Bohan-Peter and EULAR-ACR criteria.	Bohan-Peter: Classified 76.3% as definite, 15.8% as probable, and 6.6% as possible IIM. ENMC 2004: Classified 83.6% as DM, 12.3% as PM, and X as non-specific myositis.
4	Zhang *et al*. 2022 GCOM	Single centre, retrospective	1370 adults with DM	N/A	China	Physician diagnosis	Sensitivity with muscle biopsy: 75% Sensitivity without muscle biopsy: 68% Sensitivity overall: 72% Specificity with muscle biopsy: 86% Specificity without muscle biopsy: 87% Specificity overall: 86% Agreement with physician diagnosis: 0.55	Sensitivity with muscle biopsy: Bohan-Peter criteria: 94%, 2018 ENMC 73% Sensitivity without muscle biopsy: Bohan-Peter criteria: 78%, 2018 ENMC: 61% Sensitivity overall: Bohan-Peter criteria: 88%, 2018 ENMC: 73% Specificity with muscle biopsy: Bohan-Peter criteria: 65%, 2018 ENMC: 88% Specificity without muscle biopsy: Bohan-Peter criteria: 79%, 2018 ENMC: 92% Specificity overall: Bohan-Peter criteria: 69%, ENMC-DM: 91%
5	Zeng *et al*. 2022 GCOM	Single centre, retrospective	270 adults with IIM, 84 patients with hereditary myopathies	N/A	Germany	Physician diagnosis	Sensitivity: DM 90.9%, PM 89.7%, IBM 85.7% Specificity for separating hereditary from IIM: 64.3%	N/A
6	Fuentes *et al*. 2018 EULAR	N/A, retrospective	149 patients with IIM	N/A	Colombia	Bohan-Peter	N/A	Concordance between Bohan-Peter and EULAR-ACR criteria showed 54% agreement (kappa 0.22), 59% in adults, 32% in children, 44% in PM, and 42% in DM

7	Gomez *et al.* 2018 EULAR	Single centre, retrospective	60 patients with IIM	N/A	Argentina	Physician diagnosis	Sensitivity: IIM: 85% DM: 95% CADM: 100% PM: 50% ASSD: 100% Overlap myositis: 72.8%	Bohan-Peter: Sensitivity: IIM: 68.3% DM: 85% PM: 75% ASSD: 60% Overlap myositis: 54.6% Tanimoto: DM: 35% PM: 50% ASSD: 80% Overlap myositis: 54.5%
8	Rabadan *et al.* 2018 EULAR	Multicentre, retrospective	479 patients with IIM	N/A	Spain	Unclear if patients were thoroughly investigated for IIM diagnosis	N/A	Concordance study Bohan-Peter classified 99.6% EULAR-ACR classified 89.9% Agreement rate between two criteria: 89.5%
9	So *et al.* 2019 EULAR	Multicentre, retrospective	204 patients with IIM	Mean age 59.3 Female 76.5%	China	Physician diagnosis	EULAR-ACR criteria: Sensitivity for IIM: 96.1%	Bohan-Peter criteria: Sensitivity for IIM: 76% Concordance between two criteria: 77%
10	Bozan *et al.* 2020 EULAR	Not specified	40 patients with IIM	N/A	Chile	Bohan-Peter	N/A	Concordance between EULAR-ACR and Bohan-Peter: 3% for DM, 46% for PM
11	Campar *et al.* 2019 ACR	Single centre, retrospective	92 patients with IIM	Median age 47 Female 85.9%	Portugal	Physician diagnosis	Sensitivity for PM/DM/IBM/ADM: 30%, 100%, 100%, 63% Specificity for PM/DM/IBM/ADM: 90%, 66%, 100%, 99% PPV for PM/DM/IBM/ADM: 27%, 51%, 100%, 83% NPV for PM/DM/IBM/ADM: 91%, 100%, 100%, 96%	N/A
12	Dawson *et al.* 2018 ACR	Single centre, retrospective	213 patients with DM	Age not reported 70% female 89% Caucasian	USA	Physician diagnosis	Sensitivity: 95.3% Specificity: 34.2%	Bohan-Peter criteria: Sensitivity: 83.8% Specificity: 82.9%
13	Oguz *et al.* 2018 ACR	Single centre, retrospective	123 patients with IIM	Median age 46 ± 15 Not reported 100% Caucasian	Turkey	Bohan-Peter	Sensitivity was 95% regardless of muscle biopsy results. Sensitivity without muscle biopsy: DM: 99%, PM: 91%, IMNM: 100%, IBM:0% With muscle biopsy: DM: 100% PM: 93%, IMNM: 83%, IBM: 100%	

IIM: idiopathic inflammatory myopathies; PM: polymyositis; DM: dermatomyositis; ASSD: anti-synthetase syndrome; IBM: inclusion body myositis; OM: overlap myositis; CADM: clinically amyopathic dermatomyositis; JIIM: juvenile idiopathic inflammatory myopathies; MSA: myositis-specific autoantibody; MAA: myositis-associated autoantibody; N/A: not applicable; PPV: positive predictive value; NPV: negative predictive value.