Appendix.

Preceding Infections Associated with Myositis Phenotypes in a National Myositis Patient Registry, Ohnishi *et al.*:

MYOVISION Patient Questionnaire Data Used in this Analysis.

- MYOVISION patient questionnaire excerpt on infections and antibiotic usage, page 2.

MYOVISION Patient Questionnaire Excerpt on Infections and Antibiotic Usage in this study. Did you have an infection in the 12 months prior to the diagnosis of myositis?

☐ NO

☐ YES ➡ IF YES, specify the type of infection(s). Check all that apply. Please answer about each infection:

Skin infection	☐ No	☐ Yes	☐ Don't Know
Cold or upper respiratory infection	☐ No	☐ Yes	☐ Don't Know
Influenza (the flu)	☐ No	☐ Yes	☐ Don't Know
Urinary tract infection	☐ No	☐ Yes	☐ Don't Know
Strep throat	☐ No	☐ Yes	☐ Don't Know
Pneumonia	☐ No	☐ Yes	☐ Don't Know
Hepatitis	☐ No	☐ Yes	☐ Don't Know
Nausea, vomiting, and/or diarrhea (a stomach virus or gastroenteritis)	☐ No	☐ Yes	☐ Don't Know
Fever or a febrile illness	☐ No	☐ Yes	☐ Don't Know
Other infection, please specify: _____	☐ No	☐ Yes	☐ Don't Know

Did you use any prescription medications in the 12 months prior to the diagnosis of myositis?

☐ NO

☐ YES ➡ IF YES, which of the following medicines did you take? Check all that apply.

Antibiotics (such as penicillins, tetracycline, trimethoprim/sulfamethoxazole, ciprofloxacin, norfloxacin, isoniazid, zidovudine)	☐ No	☐ Yes	☐ Don't Know

Supplementary Table S1. Reported infections within one year prior to myositis diagnosis in patients in the MYOVISION registry, by clinical subgroup.

Type of infection	DM (n=362) n (APR%)	PM (n=250) n (APR%)	IBM (n=256) n (APR%)	DM *vs*. PM OR (95% CI)	DM *vs*. IBM OR (95% CI)	PM *vs*. IBM OR (95% CI)
Any infection	153 (45.6)	99 (42.1)	61 (31.2)	1.15 (0.81-1.65)	1.85 (1.17-2.92)*	1.60 (1.01-2.55)†
Fever/febrile illness	39 (10.1)	28 (11.5)	7 (3.8)	0.86 (0.51-1.47)	2.82 (1.11-7.18)†	3.27 (1.28-8.37)†
Respiratory infections‡	111 (31.7)	79 (32.8)	40 (20.5)	0.95 (0.66-1.38)	1.81 (1.09-3.00)†	1.90 (1.13-3.17)†
Cold/upper respiratory infection	95 (26.6)	68 (28.3)	35 (18.4)	0.92 (0.62-1.35)	1.61 (0.94-2.75)	1.76 (1.02-3.02)†
Influenza	32 (8.3)	25 (10.3)	10 (5.2)	0.79 (0.45-1.39)	1.64 (0.67-4.02)	2.09 (0.86-5.10)
Pneumonia	16 (5.7)	20 (9.5)	4 (1.5)	0.58 (0.29-1.15)	NC	NC
Strep throat	13 (3.0)	6 (2.1)	2 (1.4)	1.39 (0.52-3.77)	NC	NC
Nausea, vomiting, diarrhoea	47 (12.8)	31 (12.7)	8 (4.3)	1.01 (0.61-1.68)	3.30 (1.37-7.94)*	3.26 (1.34-7.94)*
Hepatitis	1 (0.3)	1 (0.4)	3 (1.2)	NC	NC	NC
Urinary tract infection	26 (4.8)	24 (6.9)	9 (4.1)	0.68 (0.37-1.24)	1.17 (0.47-2.94)	1.72 (0.69-4.33)
Skin infection	31 (8.4)	19 (7.5)	10 (4.5)	1.13 (0.61-2.10)	1.97 (0.81-4.80)	1.74 (0.70-4.32)

Prevalence rates were adjusted for age, sex, race/ethnicity, disease duration, and area rate of college-education.
‡Respiratory infections include cold / upper respiratory infection, influenza, pneumonia, and strep throat.
Significant differences: *$p \leq 0.01$, †$p \leq 0.05$.
APR: Adjusted Prevalence Rate; CI: confidence interval; DM: dermatomyositis; IBM: inclusion body myositis; NC: not credible due to cell count of 5 or less; OR: odds ratio; PM: polymyositis.

Supplementary Table S2. Reported infections within one year prior to myositis diagnosis in patients in the MYOVISION registry, by disease phenotype.

Type of infection	Lung Disease+*			Overlap myositis		
	Yes (n=124) n (APR%)	No (n=488) n (APR%)	OR (95% CI)	Yes (n=89) n (APR%)	No (n=523) n (APR%)	OR (95% CI)
Any infection	62 (57.6)	190 (44.3)	1.71 (1.10-2.66)†	44 (58.8)	208 (45.1)	1.73 (1.05-2.88)†
Fever /febrile Illness	24 (22.8)	43 (8.7)	3.10 (1.72-5.58)§	14 (17.8)	53 (10.6)	1.83 (0.94-3.57)
Respiratory infections‖	51 (47.1)	139 (31.6)	1.92 (1.23-3.00)¶	35 (46.5)	155 (32.8)	1.78 (1.07-2.94)†
Cold/upper respiratory infection	42 (39.1)	121 (27.8)	1.67 (1.05-2.64)†	29 (39.0)	134 (28.7)	1.59 (0.94-2.69)
Influenza	13 (12.1)	44 (9.2)	1.36 (0.69-2.69)	10 (12.5)	47 (9.4)	1.38 (0.65-2.91)
Pneumonia	19 (17.6)	17 (3.9)	5.26 (2.59-10.71)§	10 (13.7)	26 (5.5)	2.75 (1.25-6.06)†
Strep throat	5 (4.5)	14 (3.0)	NC	2 (2.5)	17 (3.4)	NC
Nausea, vomiting, diarrhoea	25 (23.7)	53 (11.6)	2.36 (1.35-4.14)¶	14 (18.2)	64 (13.4)	1.44 (0.75-2.77)
Hepatitis	0 (0.0)	2 (0.0)	NC	0 (0.0)	2 (0.0)	NC
Urinary tract infection	14 (11.6)	36 (6.6)	1.85 (0.93-3.70)	9 (9.6)	41 (7.3)	1.34 (0.61-2.96)
Skin infection	16 (13.6)	34 (7.0)	2.09 (1.08-4.05)‡	9 (10.6)	41 (8.0)	1.36 (0.62-3.00)

IBM subgroup was removed from the analyses.
Prevalence rates were adjusted for age, sex, race/ethnicity, disease duration, and area rate of college-education.
*Lung Disease+ cases were those exhibiting lung involvement with arthritis and/or fever.
‖Respiratory infections include cold/upper respiratory infection, influenza, pneumonia, and strep throat.
Significant differences: §$p \leq 0.001$, ¶$p \leq 0.005$, ‡$p \leq 0.01$, †$p \leq 0.05$.
APR: Adjusted Prevalence Rate; CI: confidence interval; IBM: inclusion body myositis; NC: not credible due to cell count of 5 or less; OR: odds ratio.

Supplementary Table S3. Reported infections within one year prior to myositis diagnosis in patients with Overlap myositis in the MYOVISION registry, excluding patients with overlapping autoimmune diseases diagnosed prior to myositis.

Exposure	Overlap myositis		
	Yes (n=57) n (APR%)	No (n=523) n (APR%)	OR (95% CI)
Any infection	28 (63.3)	208 (45.0)	2.11 (1.10-4.02)*
Fever/febrile Illness	9 (19.6)	53 (10.2)	2.14 (0.94-4.85)
Respiratory infections‡	22 (49.5)	155 (32.8)	2.01 (1.07-3.78)†
Cold/upper respiratory infection	18 (39.8)	134 (28.5)	1.66 (0.86-3.18)
Influenza	7 (14.7)	47 (9.4)	1.67 (0.69-4.04)
Pneumonia	8 (18.5)	26 (5.4)	3.98 (1.64-9.66)§
Strep throat	1 (1.9)	17 (3.3)	NC
Nausea, vomiting, diarrhoea	9 (19.0)	64 (13.2)	1.54 (0.69-3.42)
Hepatitis	0 (0.0)	2 (0.0)	NC
Urinary tract infection	6 (10.9)	41 (7.1)	1.60 (0.62-4.14)
Skin infection	5 (9.3)	41 (7.5)	NC

IBM subgroup was removed from the analyses.
Prevalence rates were adjusted for age, sex, race/ethnicity, disease duration, and area rate of college-education.
‡Respiratory infections include cold / upper respiratory infection, influenza, pneumonia, and strep throat.
Significant differences: §$p \leq 0.005$, *$p \leq 0.01$, †$p \leq 0.05$.
APR: Adjusted Prevalence Rate; CI: confidence interval; IBM: inclusion body myositis; NC: not credible due to cell count of 5 or less; OR: odds ratio.

Supplementary Table S4. Frequency of infection and antibiotic usage within one year prior to myositis diagnosis, by clinical subgroup.

Exposure	DM (n=362) n (APR%)	PMm(n=250) n (APR%)	IBM (n=256) n (APR%)	DM *vs*. PM OR (95% CI)	DM *vs*. IBM OR (95% CI)	PM *vs*. IBM OR (95% CI)
Infections potentially treated with antibiotics*	121 (30.6)	79 (29.8)	39 (18.1)	1.04 (0.73-1.48)	1.99 (1.22-3.25)†	1.92 (1.17-3.16)†
Infections potentially treated with antibiotics, adjusted for antibiotic usage	121 (27.4)	79 (24.4)	39 (12.9)	1.17 (0.74-1.84)	2.55 (1.39-4.67)‡	2.18 (1.18-4.05)§
Antibiotic usage	129 (36.2)	86 (34.7)	71 (36.0)	1.07 (0.75-1.53)	1.01 (0.64-1.59)	0.94 (0.60-1.50)
Antibiotic usage, adjusted for infection	129 (30.9)	86 (31.3)	71 (40.9)	0.98 (0.63-1.53)	0.65 (0.38-1.12)	0.66 (0.38-1.14)

Prevalence rates were adjusted for age, sex, race/ethnicity, disease duration, and area rate of college-education.
*Infections potentially treated with antibiotics, which include febrile illness, pneumonia, strep throat, nausea, vomiting, diarrhoea, hepatitis, urinary tract infection, and skin infection.
Significant differences: ‡$p \leq 0.005$, †$p \leq 0.01$, §$p \leq 0.05$.
APR: Adjusted Prevalence Rate; CI: confidence interval; DM: dermatomyositis; IBM: inclusion body myositis; NC: not credible due to cell count of 5 or less; OR: odds ratio; PM: polymyositis.

Supplementary Table S5. Composite outcome analysis of infection and antibiotic usage by clinical subgroup.

Infection / Antibiotics*	DM n (APR%)	PM n (APR%)	IBM n (APR%)	DM *vs*. PM OR (95% CI)	DM *vs*. IBM OR (95% CI)	PM *vs*. IBM OR (95% CI)
Yes/Yes	90 (24.3)	60 (23.1)	29 (16.6)	1.11 (0.74-1.68)	1.62 (0.91-2.88)	1.45 (0.81-2.61)
Yes/No	25 (7.9)	14 (6.2)	9 (3.3)	1.35 (0.67-2.75)	2.63 (1.02-6.80)†	1.94 (0.73-5.19)
No/Yes	39 (11.8)	26 (11.5)	42 (18.2)	1.08 (0.62-1.90)	0.71 (0.38-1.35)	0.66 (0.35-1.26)
No/No	165 (56.0)	133 (59.2)	156 (61.9)	1.00 (ref)	1.00 (ref)	1.00 (ref)

*Any infection exposure / antibiotic usage within 12 months prior to myositis diagnosis.
Prevalence rates were adjusted for age, sex, race/ethnicity, disease duration, and area rate of college-education.
Significant differences: †$p \leq 0.05$.
APR: Adjusted Prevalence Rate; CI: confidence interval; DM: dermatomyositis; IBM: inclusion body myositis; NC: not credible due to cell count of 5 or less; OR: odds ratio; PM: polymyositis.

Table S6. Frequency of infection and antibiotic usage within one year prior to myositis diagnosis, by clinical phenotype.

Exposure	Lung Disease+*			Overlap myositis		
	Yes (n=124) n (APR%)	No (n=488) n (APR%)	OR (95% CI)	Yes (n=89) n (APR%)	No (n=523) n (APR%)	OR (95% CI)
Infections potentially treated with antibiotics†	54 (44.1)	146 (29.3)	1.90 (1.25-2.90)‡	35 (39.6)	165 (31.1)	1.45 (0.90-2.34)
Infections potentially treated with antibiotics, adjusted for antibiotic usage	54 (41.7)	146 (25.2)	2.12 (1.21-3.71)§	35 (34.7)	165 (27.5)	1.40 (0.75-2.62)
Antibiotic usage	54 (48.8)	161 (35.7)	1.72 (1.11-2.67)¶	36 (45.2)	179 (37.2)	1.39 (0.85-2.28)
Antibiotic usage, adjusted for infections	54 (38.3)	161 (35.7)	1.12 (0.65-1.94)	36 (38.8)	179 (35.8)	1.14 (0.62-2.12)

IBM subgroup was removed from the analyses.
Prevalence rates were adjusted for age, sex, race/ethnicity, disease duration, and area rate of college-education.
*Lung Disease+ cases were those exhibiting lung involvement with arthritis and/or fever.
†Infections potentially treated with antibiotics, which include febrile illness, pneumonia, strep throat, nausea, vomiting, diarrhea, hepatitis, urinary tract infection, and skin infection.
Significant Differences: ‡$p \leq 0.005$, §$p \leq 0.01$, ¶$p \leq 0.05$.
APR: Adjusted Prevalence Rate; CI: confidence interval; IBM: inclusion body myositis; NC: not credible due to cell count of 5 or less; OR: odds ratio.

Table S7. Composite outcome analysis of infection and antibiotic usage by clinical phenotype.

Infection / Antibiotics†	Lung Disease+*			Overlap myositis		
	Yes n (APR%)	No n (APR%)	OR (95% CI)	Yes n (APR%)	No n (APR%)	OR (95% CI)
Yes / Yes	43 (39.1)	107 (23.5)	2.34 (1.42-3.85)‡	23 (27.9)	127 (26.4)	1.46 (0.81-2.64)
Yes / No	10 (9.4)	29 (6.1)	2.16 (0.96-4.87)	10 (13.6)	29 (5.6)	3.35 (1.46-7.68)§
No / Yes	11 (9.7)	54 (11.9)	1.15 (0.55-2.40)	13 (16.9)	52 (10.5)	2.22 (1.08-4.58)‖
No / No	47 (41.8)	251 (58.5)	1.00 (ref)	33 (41.6)	265 (57.5)	1.00 (ref)

IBM subgroup was removed from the analyses.
*Lung Disease+ cases were those exhibiting lung involvement with arthritis and/or fever. IBM subgroup removed from sample.
†Any infection exposure / antibiotic usage within 12 months prior to myositis diagnosis.
Prevalence rates were adjusted for age, sex, race/ethnicity, disease duration, and area rate of college-education.
Significant Differences: ‡$P \leq 0.001$, §$P \leq 0.005$, ‖$P \leq 0.05$
APR: Adjusted Prevalence Rate; CI: confidence interval; IBM: inclusion body myositis; NC: not credible due to cell count of 5 or less; OR: odds ratio.