

Mycoplasma pneumoniae IgG positivity is associated with tic severity in chronic tic disorders

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Background

Tics: sudden, rapid, recurrent, non-rhythmic motor movements (motor tics) and/ or vocalisations (vocal tics). Chronic Tic Disorder (CTD) > 1 year.

Mycoplasma pneumoniae: *M. pneumoniae* has been previously linked to movement disorders, basal ganglia lesions and tics¹⁻⁵.

Study aim: To determine whether *M. pneumoniae* IgG positivity is associated with the presence and/or severity of tics.

Materials and methods

A cross-sectional sub-study of the European Multicentre Tics in Children Studies (EMTICS).



M. pneumoniae IgG positivity was compared across three groups:

- **CTD:** 302 children and adolescents (3-16 years) with CTD
- **Tic onset:** 51 siblings (3-10 years) of people with CTD who developed tics within a seven-year follow-up period
- **Unaffected:** 88 siblings (4-10 years) who did not develop tics within the study period and were ≥10-years-old at their last assessment

Results

- *M. pneumoniae* IgG was not associated with higher odds of having a CTD or developing tics in an at-risk group.
- *M. pneumoniae* IgG positivity was associated with higher tic severity ($\beta=2.64$, s.e.=1.15, $p=0.03$).

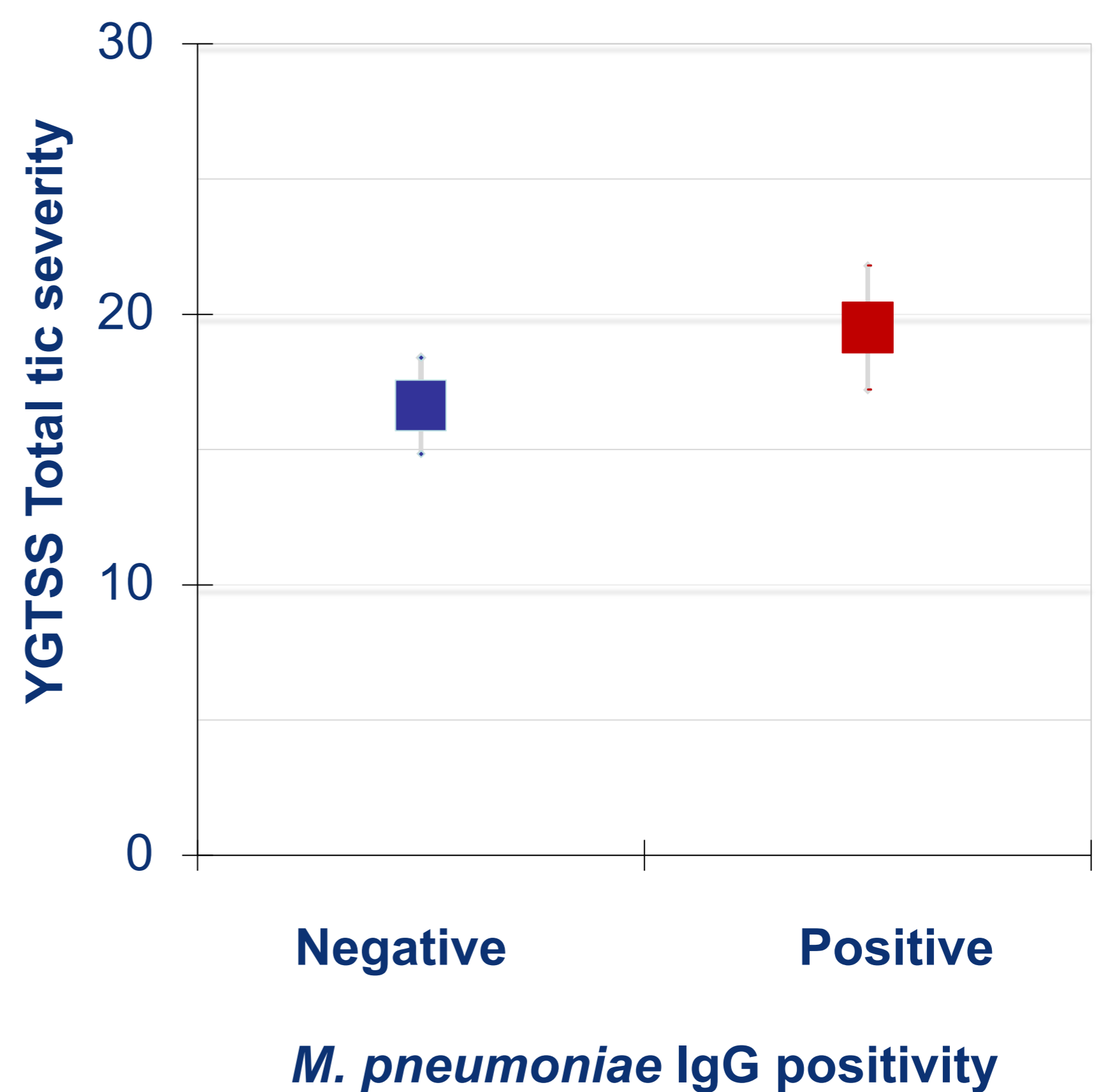


Figure legend: Predicted YGTSS Total Tic Severity Score with 95% confidence intervals for CTD participants who were *M. pneumoniae* IgG seronegative vs seropositive (≥ 10 AU/ml)

Conclusions

- *M. pneumoniae* may directly influence tic severity.
- However, it is more likely that the association observed in this study reflects a propensity toward enhanced immune responses in people with CTD.
- Rather than a causal relationship, infection and greater tic severity may be indirectly linked via shared underlying immune mechanisms.

References

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