## Chronic Tic Disorders and Group-A Streptococcal Infections: Is there a Link?

The cause of chronic tic disorders (CTDs) is still unclear



There are mixed reports regarding the role of Group-A streptococcal (GAS) infections in the development of CTDs

## **Study question**

Is there an association between GAS infection and development of CTDs in children?

N = 259



Tic-free children (3-10 years) WITH first-degree relatives who have CTDs Follow-up

1 year

Rate of CTD development

Presence of GAS infection as per 4 different definitions

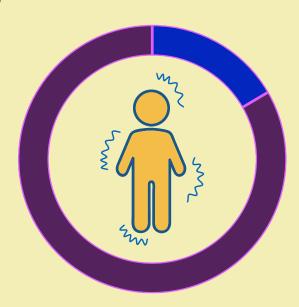
Cox regression analysis



Estimation of hazard ratio (HR)

**CTDs** 

Children developing tics over an average follow-up period of 1 year

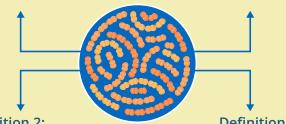


61/259 - 23.6%

GAS exposure based on:

Definition 1: New definite GAS exposure HR = 0.310; 95% CI = 0.037-2.590

Definition 3: new (definite or possible) GAS exposure or an ongoing definite GAS exposure HR = 0.853; 95% CI = 0.466-1.561



Definition 2: new definite or new possible GAS exposure HR = 0.561;

95% CI = 0.219-1.436

Definition 4: new or ongoing (definite or possible) GAS exposure HR = 0.725;

Association of sex with CTDs



HR = 0.4, 95% CI = 0.2-0.7

There is NO association between Group-A streptococcal infection and development of tics