

Guillain Barré Syndrome

Reviewer: Dr Simon Rinaldi, Academic Clinical Lecturer, University of Oxford, Oxford, UK.

My review includes one paper, two clinical trials, and a multi-centre observational study, united under the common theme of the year in Guillain Barré syndrome – international collaboration.

Ever since the 1976 “swine flu” vaccine was suspected of inducing GBS there have been anxieties that subsequent vaccines might also have this adverse effect. This was especially the case during the contemporary outbreak of a similar influenza strain (H1N1). In a study published earlier this year, the Global H1N1 GBS Consortium demonstrate the feasibility of international collaboration in assessing vaccine safety.¹ An impressive 479 GBS cases were contributed by 15 countries, providing unprecedented power to assess this rare adverse event. Using a self controlled case series methodology not reliant on accurate knowledge of underlying background incidence rates, the consortium report a relative increased incidence of 2 to 3 for GBS in the 42 days following H1N1 vaccination, translating to 1-2 excess cases per million vaccines administered. They were also able to show the time of peak GBS risk is 8-21 days post vaccination, as might be expected for a pathological mechanism likely to be driven by an IgG based humoral immune response. The at risk period chosen and the influence of seasonal infections, including influenza itself, can confound these estimates. Nevertheless, the study addresses these concerns using a number of different statistical approaches, and gives a consistent estimate of the risk of vaccination with respect to GBS. This has immediate utility in counselling patients who might receive vaccination, and in informing vaccination policies.

The bottom line is that this high quality evidence shows that the risk of GBS is low, and almost certainly outweighed by the protective benefits of vaccination.

Likewise, patients with GBS are often understandably anxious to know how long they will take to recover. Until recently, meaningful prognostication proved difficult. Another highly impressive ongoing international study aims to identify easily obtainable factors which predict disease course at an early stage, building upon earlier excellent work from the Dutch GBS study group. The International GBS Outcome Study (IGOS) aims to collect detailed clinical data, along with serum samples and DNA, from 1000 patients with GBS.² In the last year 100 centres over 13 countries have joined the study and approaching 220 patients have been included at the time of writing.³ This unprecedented international collaboration has great promise in improving prognostication, but also will provide an extremely valuable bio-bank for study of immunopathological mechanisms and genetic susceptibility. Moreover, IGOS will integrate with international multi-centre treatment trials, as has already begun with the International Second-dose IVIg trial, and will underpin future studies of novel agents such as complement inhibitors.

The benefit of international collaboration for addressing key questions in GBS has already been well demonstrated, and as such the results from IGOS and related studies are eagerly anticipated.

- 1 Dodd CN, Romio SA, Black S, et al. International collaboration to assess the risk of Guillain Barré Syndrome following Influenza A (H1N1) 2009 monovalent vaccines. *Vaccine* 2013;31:4448–58. doi:10.1016/j.vaccine.2013.06.032
- 2 Jacobs BC. IGOS - International GSB Outcome Study | About IGOS. IGOS. 2012. <https://www.gbsstudies.org/about-igos> (accessed 24 Sep 2012).
- 3 IGOS Newsletter. <https://www.gbsstudies.org/extended-newsletter> (accessed 3 Oct 2013).