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## Guillain-Barre' and the 1978-79 Influenza Vaccine

Below is reproduced in full an article from the November 23, 1979 MMWR discussing the results of national surveillance of Guillain-Barre' Syndrome (GBS) between January 1978 and March 1979. No statistically significant excess risk of GBS was demonstrated. This once again demonstrates how important facts can be accumulated by a functional surveillance system and good reporting.

As of September 1, 1979, a total of 1,019 cases of Guillain-Barre' syndrome (GBS) were reported to CDC with dates of onset from January 1, 1978 through March 31, 1979. The reports were obtained by 1,813 physicians from the American Academy of Neurology, which has been participating with CDC and State and Territorial Epidemiologists in a GBS surveillance system since early 1978 (1).\* The attack rate among reported cases was significantly higher in males than in females. A positive correlation between advancing age and attack rate was also noted.

A major purpose of this surveillance effort was to determine whether or not an increased risk of vaccine-related GBS existed for the approximately 12.5 million doses of influenza vaccine administered in the 1978-79 campaign when compared to the previously documented risk associated with A/New Jersey (swine) influenza vaccine administered during the 1976 National Influenza Immunization Program (1). To evaluate the possible association between GBS and the 1978-79 influenza vaccine, cases reported with onset between September 1, 1978 (the start of the influenza vaccine campaign) and March 31, 1979 (approximately 8 weeks after most of the vaccine had been administered) were analyzed.

During this period, CDC received reports of 12 adults+ who had onset of GBS within 8 weeks after receiving the influenza vaccine. A total of 391 cases of GBS in adults who had not recently been vaccinated were also reported. The rates and risks of GBS in adults who had not recently been vaccinated and in those vaccinated within 8 weeks before onset of GBS were calculated and compared, using estimates of the number of adults vaccinated between September 1978, and January 1979. These estimates were obtained from a national survey conducted by the Opinion Research Corporation (2) and from the Census Bureau's midyear estimates of the U.S. population. For the 1978-79 influenza vaccine, the relative risk of vaccine-associated GBS was 1.4 (0.7-2.7).‡ The risk associated with the 1978-79 vaccine was statistically significantly below that associated with A/New Jersey influenza vaccine for the equivalent 8-week period (6.2). The relative risk of 1.4 is not significantly different from 1.0 suggesting that a statistically significant excess risk of GBS following receipt of the influenza vaccine administered in 1978 could not be demonstrated.

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**EDITORIAL NOTE:** This system has provided a means of monitoring the relationship between GBS and the use of influenza vaccine. These data are based on reports from voluntarily participating neurologists, and, as in any broad surveillance effort, case reporting is not complete. However, it is probable that recently vaccinated cases would be at least as likely (if not more likely) to be reported as would unvaccinated cases. The American Academy of Neurology's use of sentinel neurologists to detect GBS cases is continuing, and similar information will be available on the relationship between GBS and the 1979-80 influenza vaccine.

### References

1. Schonberger LB, Bergman DJ, Sullivan-Bolyai JZ, et al: Guillain-Barre' syndrome following vaccination in the National Influenza Immunization Program, U.S., 1976-1977. *AM J. Epidemiol* 100:105-123, 1979
2. CDC: 1979 Immunization Survey, June 1979

\* The original surveillance system involved 1,990 sentinel physicians (1). The continued participation of the 1,813 physicians whose reports are summarized here was confirmed by telephone between December 1978 and March 1979.

+ 18 years of age.

‡ 95% confidence interval. Relative risk equals the rate in adults vaccinated within 8 weeks before onset of GBS divided by the rate in adults not vaccinated within the same time period.