Letter to the Editor

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Hidden authority study data have come to light: besides narcolepsy, the swine influenza vaccine Pandemrix caused type 1 diabetes

Dear Sir,

Removal of a total of 141 type 1 diabetes cases in the study population (0–29 years of age) outside the published study design protocol before data analysis caused a statistically significant increased risk of type 1 diabetes to disappear.

The Medical Products Agency (MPA) in Sweden conducted a large study (61% of the population) investigating whether the Pandemrix vaccine also caused, besides narcolepsy, other neurological and immune-related diseases [1]. It was concluded in the article '*... we found no convincing evidence of a risk increase for selected neurological or immune-related diseases, except narcolepsy, in Pandemrix-vaccinated compared with unvaccinated individuals'*. The same message was spread to the Swedish public via a press conference (26 March 2013), their website (26 March 2013) and an article in the Journal of the Swedish Medical Society (Läkartidningen 21 November 2013).

However, the reported number of type 1 diabetic cases in the study was contradictory to a public alternative source of data, namely the SWEDIABKIDS quality registry where diagnosed children/adolescent cases are voluntarily reported from the healthcare profession. Especially disturbing was the fact that as many as 60 cases (11%) in the most vulnerable age group (10–19 years) were lacking in the study. It is to be expected that the study should contain more cases as it was based on a patient registry comprising all cases. This circumstance was the issue of a Letter to the Editor [2], author response [3], response to the author's reply [4] and finally author's second response [5] in J Intern Med.

On request of disclosure of public documents, the MPA has now, 3 years later, confirmed that they removed 52 cases (14 unvaccinated/38 vaccinated) from the age group 10–19 years before data analysis, an act of protocol violation as it was not given in the published study design protocol. The removed individual cases are listed below in Table 1. As a reason for omitting these cases, the MPA answered that these patients with diabetes were not included because they did not appear in the registry for prescribed drugs regarding insulin. However, this registry only contains patients to whom insulin was prescribed via the pharmacies. Patients with diabetes who are given insulin in hospitals or hospital-like settings (inpatients) are not included in this drug registry. From disclosed data from the authority, it can be estimated conservatively that the amount of insulin distributed to inpatients covers the full treatment of more than 100 type 1 patients with diabetes in a population equivalent to that in the study where 52 cases were removed (insulin use for treating inpatients with type 2 diabetes excluded). In other words, the inpatient-distributed insulin volume covers easily the treatment of the removed 52 cases. In addition, all or almost all of the removed cases have certainly been registered in the SWEDIABKIDS quality registry since 2012 when the data analysis was performed, voluntarily reported as genuine type 1 diabetic cases by their own diagnosing physicians. Obviously, case removal is scientifically unjustified.

The removal of cases caused the study to shrink and so did its power to detect significant associations. It should be noted that many cases still have not been reported in the article as the SWEDIABKIDS registry was incomplete at the time of comparison. It is currently being retrospectively updated. Therefore, there may be additional cases which should be amended to the study.

The protocol violation made a great difference to the study outcome, a statistically significant increased risk turned into no statistically significant association. Taking into account the 52 cases, the MPA now reports 26% more type 1 diabetes cases in vaccinated than in unvaccinated persons, a value which is statistically significant (HR = 1.26; 1.04–1.53, 95% CI; $P = 0.021$). This calculation was provided by the authority when disclosure of the public documents was requested. This

Table 1 *Removed type 1 diabetes cases (10-19 years of age at 1 January 2009)*

Age at 1 January 2009	Sex	Age at diagnosis	Vaccinated with Pandemrix
19	F	21–22	No
13	F	14–15	No
11	F	12–13	No
18	F	19–20	No
12	M	12–13	No
18	F	20–21	No
15	M	17–18	No
17	F	18–19	No
13	F	14–15	No
10	M	11–12	No
10	F	12–13	No
18	F	19–20	No
12	M	14–15	No
14	M	16–17	No
15	F	17–18	Yes
13	M	14–15	Yes
14	F	16–17	Yes
17	F	19–20	Yes
19	F	21–22	Yes
18	F	19–20	Yes
13	M	14–15	Yes
13	F	14–15	Yes
12	F	14–15	Yes
16	M	17–18	Yes
18	F	20–21	Yes
12	F	13–14	Yes
17	F	19–20	Yes
16	F	17–18	Yes
16	F	17–18	Yes
17	F	18–19	Yes
15	M	16–17	Yes
17	M	19–20	Yes
15	F	16–17	Yes
12	M	13–14	Yes
15	F	16–17	Yes
10	F	12–13	Yes
13	M	14–15	Yes
10	F	12–13	Yes
10	M	12–13	Yes
11	F	12–13	Yes
14	M	15–16	Yes
10	F	12–13	Yes
19	M	20–21	Yes
12	F	14–15	Yes
16	M	17–18	Yes
13	F	15–16	Yes
17	F	19–20	Yes
13	F	15–16	Yes
12	M	14–15	Yes
12	M	14–15	Yes
17	M	19–20	Yes
17	F	18–19	Yes

increased risk corresponds to about 150 new cases caused by Pandemrix in the most vulnerable age group 10–19 years in Sweden.

For narcolepsy cases, the state indemnity has been currently settled. Young persons (10–19 years) in whom type 1 diabetes was diagnosed up to 2 years after receiving the Pandemrix vaccine should now be able to get indemnity from the state by referring to this Letter to the Editor containing new authority data, previously unknown to the public.

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