Infanrix hexa vaccine associated deaths

Baldo and colleagues quote 2 references to suggest that in Germany, a population-based evaluation demonstrated a possible safety signal for DTPa-HBV-IPV-Hib-SP but failed to show an imbalance between observed and expected SUD cases for DTPa-HBV-IPV/Hib <PMID:15602672> <PMID:16081190>. However this seems to be contradicted by the data that was submitted by the manufacturer to the regulatory authority and the analysis below.

The GlaxoSmithKline Biological Clinical Safety and Pharmacovigilance's confidential report to the Regulatory Authority on Infanrix hexa (combined Diptheria Tetanus and Acelluar Pertusis, Hepatitis B, inactivated Poliomyelitis and Haemophilus influenza type B vaccine for the period 23 October 2009 to 22 October 2011 (the 15th and 16th Periodic Safety Update Report (PSUR)) has been made available to the public by the Italian Court of Justice Nicola Di Leo and is now available on the internet (http://autismoevaccini.files.wordpress.com/2012/12/vaccin-dc3a9cc3a8s.pdf)

Section 9.3.1.1 on pages 246-249 documents an evaluation of whether the number of 'sudden deaths' reported, exceeded the number one could expect to occur by coincidence - that is from the natural background incidence of sudden death. The background incidence of 0.454/1000 live births in the first year and 0.062/1000 live births is used, with a healthy vaccine correlation factor of 0.8 applied. Table 36 on page 249 tabulates the number of sudden death that would be expected to occur by chance within a range of days post vaccination.

Table 1
Cumulative number of observed and expected cases of Sudden Death following Infanrix hexa in children in their first or second year of life

Time since Vaccination (days)	Observed (1st year)	Expected	Observed (2nd year)	Expected
0	16	54.4	2	1.98
1	29	108.8	5	3.96
2	42	163.2	6	5.94
3	50	217.6	6	7.92
4	57	272	6	9.9
5	60	326.4	7	11.88
6	60	380.8	7	13.86
7	62	435.2	7	15.84
8	63	489.6	7	17.82
9	65	544	7	19.8
10	65	598.4	7	21.78
11	65	652.8	7	23.76
12	65	707.2	7	25.74
13	65	761.6	8	27.72
14	65	816	8	29.7
15	66	870.4	8	31.68

16	67	924.8	8	33.66
17	67	979.2	8	35.64
18	67	1033.6	8	37.62
19	67	1088	8	39.6

(Source: Table 36 The GlaxoSmithKline Biological Clinical Safety and Pharmacovigilance report to Regulatory Authority)

According to the report the number of sudden death cases reported after vaccination with Infantrix hexa is below the number of cases expected in children in the first year of life. It is equal or below the number of cases expected in children in the 2nd year of life.

However if one analyses the data looking at deaths in first 10 days after administration of vaccine and compare it to the deaths in the next 10 days, it is clear that 97% of deaths (65 deaths) in the infants below 1 year, occur in the first 10 days and 3% (2 deaths) occur in the next 10 days. Had the deaths been 'coincidental SIDS deaths' this disparity in number of deaths in the two time periods, would not have been seen.

In the same way in children older than 1 year 87.5% deaths (7 deaths) deaths occur in the first 10 days and 12.5% (1 death) occurs in the next 10 days.

If we consider the number of deaths in the second 10-day-window-period as the baseline SIDS rate in these healthy children coming for immunization, we can see that there was an excess of 63 (65 – 2 = 63) deaths in the first year and excess of 6 deaths (7 – 1 = 6) among those vaccinated between 1 and 2 years.

In the reporting period, one must conclude that Infanrix hexa vaccine could have been responsible for at least 69 deaths. As all these are deaths within a small window period (of 3 weeks) after a catastrophic event which is investigated thoroughly (namely investigation of sudden unexpected deaths - SIDS/SUDS), ascertainment bias is not likely to play a major role in the difference observed.

Tabulated below are the decelerating incremental deaths that also suggest that there is a clear relationship of 'sudden death' to the vaccination episode. **42 deaths** had taken place in the first three days after vaccination, **16 deaths** in the next 3 days between day 3 and day 5, **3 deaths** between day 6 and day 8, **2 deaths** between day 9 and day 11, and **2 deaths in all of the remaining 10 days.** The fact that rate of deaths decreases rapidly and continuously as time elapses after the day of immunization is clear that the deaths are related to the vaccination episode.

Table 2.
Daily increment in Sudden Death following
Infanrix hexa in children in their first and second years of life

Time since	Cumulative	**Daily increment**	Cumulative	**Daily increment**

vaccination (days)	Observed deaths (1st year)		Observed deaths (2nd year)	
0	16	**16**	2	**2**
1	29	**13**	5	**3**
2	42	**13**	6	**1**
3	50	**8**	6	**0**
4	57	**7**	6	**0**
5	60	**3**	7	**1**
6	60	**0**	7	**0**
7	62	**2**	7	**0**
8	63	**1**	7	**0**
9	65	**2**	7	**0**
10	65	**0**	7	**0**
11	65	**0**	7	**0**
12	65	**0**	7	**0**
13	65	**0**	8	**1**
14	65	**0**	8	**0**
15	66	**1**	8	**0**
16	67	**1**	8	**0**
17	67	**0**	8	**0**
18	67	**0**	8	**0**
19	67	**0**	8	**0**

This is being posted on PubMed Commons to put it up for open review by the scientific community, on account of its urgency, as this is a matter that involves the lives of children and there is a continuing risk to children.

As the authors of this article are best qualified to be peer reviewers for this submission, I am inviting each of the authors to review this submission and post their review on PubMed Commons.

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