Childhood vaccinations and reported suspected adverse reactions in Q1 of 2017

Every three months, the reports of suspected adverse reactions to vaccines in the Danish childhood immunisation programme are reviewed and assessed by the Danish Medicines Agency and a vaccination panel composed of a number of experts.

Here are the results of the review for Q1 2017. The review covers primary vaccines in the childhood immunisation programme as well as booster vaccines (re-vaccination).

Vaccines	Non-serious	Serious	Total
DT Booster	4	1	5
DTaP-IPV Booster	12		12
DTaP-IPV Booster / DTaP-IPV/Act-Hib	1		1
DTaP-IPV Booster / DTaP-IPV/Act-Hib / Prevenar 13	2		2
DTaP-IPV/Act-Hib	23	7	30
DTaP-IPV/Act-Hib / Hexaxim	1		1
DTaP-IPV/Act-Hib / Infanrix Hexa	3		3
DTaP-IPV/Act-Hib / Infanrix Hexa / Prevenar 13	2		2
DTaP-IPV/Act-Hib / MMR Vaxpro / Prevenar 13	3		3
DTaP-IPV/Act-Hib / Prevenar	2		2
DTaP-IPV/Act-Hib / Prevenar / Prevenar 13	1		1
DTaP-IPV/Act-Hib / Prevenar 13	64	1	65
DTaP-IPV/Act-Hib / Prevenar 13 / Priorix		1	1
Hexyon / Infanrix Hexa / Prevenar 13		1	1
Hexyon / Prevenar 13	4	1	5
Infanrix Hexa	1	0	1
Infanrix Hexa / Prevenar 13	10		10
MMR Vaxpro	10	4	14
Pentavac	1		1
Pneumovax	7	2	9
Prevenar 13	2	1	3
Priorix	1	0	1
Cervarix	1	1	2
Silgard		2	2
Gardasil	11	18	29
Total	166	40	206

Table 1: Number of reports by vaccine.

ADR reports related to the childhood immunisation programme
The Danish Medicines Agency received 206 ADR reports in the first quarter of 2017 – 40 of these reports were classified as serious.

Local reaction after Pneumovax
The 23-valent pneumococcal vaccine, Pneumovax, is not included in the childhood immunisation programme, but is analysed in this review. In this quarter, we received two reports of serious suspected adverse reactions. Two elderly women developed a severe local reaction, were hospitalised and treated with antibiotics.

Local skin reactions
A 6-year-old girl treated with MTX and a biological medicinal product for juvenile idiopathic arthritis developed severe local swelling after the DTaP-IPV/Act-Hib vaccine. The girl was treated with antibiotics.

Seizures and/or fever
A 5-month-old baby suffered from seizures and fever after vaccination with Hexyon/Prevenar 13.

A 12-month-old child vaccinated with MMR Vaxpro suffered from febrile seizures one week after the vaccination. At that time, the child had contracted chickenpox, which may explain the symptoms.

Another 12-month-old child developed febrile seizures nine days after vaccination with MMR Vaxpro. It is well known that fever may occur at this time, and a causal relationship is therefore considered possible.

Vaccine failure
In the first quarter, we received five ADR reports about pertussis in vaccinated children. All of the children were between 12 and 24 months, and all of them had been vaccinated three times with DTaP-IPV/Act-Hib.

Another child vaccinated twice with Prevenar 13 suffered from febrile seizures and otitis media. Later on, pneumococci type 19F was found, which is included in Prevenar 13.

Granulomas and related conditions
A 12-month-old child suffered from eczema and developed granuloma after vaccination with Hexyon/Infanrix Hexa.

Another 12-month-old child developed vaccination granulomas after vaccination with DTaP-IPV/Act-Hib / Prevenar 13 and subsequently many infections.

A third 12-month-old child had surgical removal of a vaccination granuloma, which developed after vaccination with DTaP-IPV/Act-Hib / Prevenar 13 / Priorix.

However, Priorix does not contain aluminium and does not induce granulomas.

Other conditions
A case report describes worsening of symptoms in an infant suffering from the very rare disease cutaneous sarcoidosis after vaccination with DTaP-IPV/Act-Hib / Prevenar 13. Since this is a very rare condition, the literature lacks documentation which establishes a causal relationship.
A 12-month-old child developed urticaria multiforme shortly after vaccination with MMR Vaxpro. This disease was previously described after vaccination, and a causal relationship is therefore considered possible.

Another 12-month-old child developed idiopathic thrombocytopenic purpura (ITP) one week after vaccination with MMR Vaxpro. This is a known adverse reaction, and a causal relationship is considered possible.

In addition, we have received an ADR report of an allergic reaction, not described in detail, which occurred in an adult person immediately after vaccination with DT booster.

HPV

The serious ADR reports about the HPV vaccines in the first quarter mainly concern women vaccinated before 2015 (all but two).

One woman was vaccinated with Cervarix, two with Silgard and the remaining with Gardasil.

Cases about seven of the ADR reports are described in an article[1].

Most of the serious ADR reports describe various types of pain or fatigue, dizziness and general symptoms. However, there are two exceptions:

One ADR report concerns a woman, who developed seronegative antiphospholipid antibody syndrome and systemic lupus with many symptoms, including sinus thrombosis. No excessive frequency of autoimmune diseases is seen after the HPV vaccine, and a causal relationship to the vaccine is therefore considered less likely. Another adult woman was diagnosed with hypertension (220/130) shortly after the vaccinations. Hypertension is not a known adverse reaction to the vaccine and occurs in 20-25% of the Danish population (www.sundhed.dk).

All serious ADR reports in this quarter are impossible to classify due to lack of information (10) or because they are considered less likely (11) either due to an inconsistent temporal relationship, lack of evidence of causality or other possible causes that may explain the symptoms.

Fatigue, headache etc.
In the 12 non-serious ADR reports about HPV vaccines, the reported symptoms include fatigue, headache/migraine, dizziness and myalgia.

Non-serious ADR reports about granulomas
We received 116 non-serious ADR reports about granulomas or nodules in the first quarter. Several of the ADR reports about granulomas also reported aluminium allergy, itching, sores, and increased hair growth, etc. Most of the ADR reports describing granulomas concern children who

[1] Sorensen T, et al. A qualitative study of women who experience side effects from human papillomavirus vaccination; Danish Medical Journal; 2016; 63(12); A5314.

were vaccinated several years ago. Vaccination granulomas are known adverse reactions of most aluminium-containing vaccines.

Conclusion

In the first quarter of 2017, the Danish Medicines Agency received a total of 206 reports of suspected adverse reactions to vaccines in the childhood immunisation programme. As previously, most of them (57%) concerned granulomas where the vaccine had been given several years ago. The same trend is seen for ADR reports about the HPV vaccine, the majority of which concern women who were vaccinated several years back.

There are still few ADR reports about the HPV vaccine submitted by recently vaccinated girls, which should be compared to the recent years' declining HPV vaccination participation rates in the childhood immunisation programme.

In the first quarter of 2017, the Danish Medicines Agency received several reports about vaccine failure and the development of pertussis, which could be related to the pertussis epidemic in 2016 and the generally high occurrence of the disease – the highest occurrence since 2002.