Norwegian study links flu vaccine to narcolepsy risk

The Norwegian Institute of Public Health has found an elevated risk of narcolepsy among children and young adults who were vaccinated against the swine flu seven years ago. Some who did not take the vaccine against the pandemic of 2009 also developed this severe sleeping disorder.

Researchers at the Norwegian Institute of Public Health have followed up those under 30 who took the flu shots and those who didn’t during the swine flu (H1N1) pandemic to appraise whether the vaccine entailed serious side-effects.

The study has shown an increased incidence of narcolepsy among those who took the vaccine, informs the institute. Narcolepsy is a neurological disorder which upsets sleep-wake cycles and is often characterised by daytime sleepiness and sudden lapses into sleep.

A total of 72 persons aged five to 26 were diagnosed with narcolepsy among Norway’s then population of five million between 2009 and the end of 2012. Their average age when symptoms showed up was 12.

Among these 72, 56 were vaccinated and 16 were not. This means of course that unvaccinated persons also ran a certain risk of narcolepsy.

The Institute and other public health officials in Norway recommended vaccinations to much of the population in the autumn of 2009.

Five times the risk

In a three-year follow-up study it was found that those who had been vaccinated ran five times the risk of developing narcolepsy as opposed to those who didn’t take the flu shots. The study was carried out by the physician and researcher Lill Trogstad and colleagues at the institute.

Norwegian Institute of Public Health Director Camilla Stoltenberg commented on the swine flu vaccination issue this week. She said in a comparable situation today the institute would be more forthright about uncertainties and medical disagreements regarding the vaccine than its spokespersons were in 2009 and 2010.

Early warnings from neighbours

Narcolepsy is highly debilitating for those who have it, but fortunately it is a rare disorder.

“Soon after the pandemic started we received signals from Sweden and Finland that several children had been stricken with narcolepsy and a link was suspected to the Pandemrix vaccine,” says Lill Trogstad.

This is why researchers started registering cases of the disorder among children and adults up to the age of
30 in Norway.

“Our findings of a higher risk corresponded with those in other countries,” she says.

**Eight months until symptoms occurred**

On average it took eight months from the time of taking the vaccination or getting the swine flu until the symptoms of narcolepsy cropped up.

Annually, a total of 1.4 new cases per 100,000 capita were diagnosed with narcolepsy in Norway. In other words, if watch was kept on 100,000 persons for one year, just one or two new persons would be seen to be afflicted.

The researchers calculate that on average, from one-half to one person per 100,000 are stricken with narcolepsy per year. That would be about half the rate seen in the three-year period after the epidemic.

“But we have poor national statistics on occurrences prior to when swine flu struck,” says Trogstad.

**Following those under 30**

The Norwegian study covered a total of 1.6 million children, adolescents and young adults under the age of 30. Nearly 700,000 persons in this age group, or 42 percent, took the vaccine.

A little less than 60,000 persons in Norway, or 3.6 percent, were registered with the H1N1 influenza virus by doctors during the pandemic. The researchers figure that far more were stricken with this swine flu, as most who got sick didn’t contact their doctors.

Other Norwegian studies have calculated that about 30 percent of the population was afflicted.

**Can influenza trigger narcolepsy?**

There was a small but statistically significant connection between the swine flu and the risk of narcolepsy in the first six months after being infected.

Data has shown that most children and young people were vaccinated after the swine flu epidemic had already peaked.

“This means that many who were vaccinated had the flu when they took their shots. It cannot be ruled out that having the virus when being vaccinated elevated the risk of narcolepsy. But we can’t conclude this with any certainty on the basis of our data,” stresses Trogstad.

**More narcolepsy also without flu shots**

A higher incidence of narcolepsy following the influenza epidemic was also noted in countries where few of the population were vaccinated, including China and Denmark.

A vaccination with the drug used, Pandemrix, reduced the risk of influenza by about 70 percent.

This was the fifth register study following up the swine flu pandemic of 2009-2010 published by the Norwegian Institute of Public Health.
Other findings include:

- Pandemrix vaccinations of pregnant women were safe for their babies. But getting the influenza could involve negative consequences, including twice the frequency of still births.
- The swine flu was linked to a double risk of Chronic Fatigue Syndrome (CFS, also known as myalgic encephalomyelitis, or ME) whereas those who were vaccinated ran no such additional CFS risk.
- Influenza increased the risk of Guillain-Barré syndrome, an immune system disease causing muscle weakness and paralysis. No increased risk of this disease was found after swine flu vaccinations.

Read the Norwegian version of this article at forskning.no [5]

The study indicates that three years after the pandemic, Norwegians who took swine flu shots had run five times the risk of narcolepsy compared to those who had not been vaccinated. (Illustrative photo: Colourbox) [6]

L. Trogstad, et al.: Narcolepsy and hypersomnia in Norwegian children and young adults following the influenza A (H1N1) 2009 pandemic. Vaccine, 13 March 2017,
http://dx.doi.org/10.1016/j.vaccine.2017.02.053 [8]

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