Executive summary

Health Council of the Netherlands. Vaccination against shingles. The Hague: Health Council of the Netherlands, 2016; publication no. 2016/09.

Every year about 55,000 people in the Netherlands develop shingles, which can be very painful. The elderly are at particular risk of developing shingles, and the level of risk involved increases with age. Zostavax® is the only available registered vaccine against this disease. The Ministry of Health, Welfare and Sport has asked the Health Council of the Netherlands for its advice concerning the potential health gains of using the available vaccine in the Netherlands and on how a possible vaccination scheme might best be arranged, either for specific groups or in a more general context. The Council's permanent Committee on Vaccinations has examined this issue. The Committee based its work on scientific data relating to the burden of disease, and on the vaccination's effectiveness, safety and efficiency.

Characteristics of shingles

Shingles is caused by a resurgence of the varicella zoster virus which, following a past infection, persisted in the nervous system and resurfaced again when the individual's immune system weakened. Two thirds of shingles patients are above 50 years of age. There is little risk of becoming infected, as the vast majority of the population has had chicken-pox during childhood.

Shingles produces a burning or itchy rash. The most unpleasant complication is nerve pain (postherpetic neuralgia, or PHN). While the risk of PHN is limited,

it does increase with age. Hospitalisation for shingles is uncommon and mortality from the disease is rare.

Effectiveness of the vaccination

The effectiveness of vaccination is limited and the protection it provides is short-lived. In the first year after vaccination, Zostavax® protects two thirds of vaccinated individuals. After three years this has fallen to a third, and eight years after vaccination its protective effect is practically zero. Insufficient data are available on the effectiveness of possible revaccination nor, indeed, is Zostavax® registered for revaccination. In absolute terms, vaccination reduces a 70-year old individual's risk of developing shingles by 2 percent (from 11.8 percent to 9.8 percent). His risk of suffering pain for at least one month (PHN1) is reduced by 0.7 percent (from 4.7 percent to 4.0 percent), while his risk of suffering pain for at least three months (PHN3) is reduced by 0.3 percent (from 2.5 percent to 2.2 percent). The risk of hospitalisation is reduced by 0.12 percent (from 0.72 percent to 0.60 percent). The risk of mortality from shingles remains virtually unchanged.

Safety of the vaccination

The Committee sees no reason to doubt the safety of vaccination in healthy individuals, as the adverse effects involved are generally mild. The situation is different in individuals whose immune system has been compromised as a result of illness and use of medication (rheumatoid arthritis, Crohn's disease, tumours, HIV infection, anti-cancer drugs). Vaccination is contraindicated for this group as it can result in serious complications: this is because Zostavax® is a live attenuated vaccine. Indeed, shingles is associated with a weakened immune response. Thus, vaccination is of no use to the very group that might otherwise have the most to gain from it.

Efficiency of the vaccination

Concerning efficiency, the usefulness of vaccination is limited but, on the other hand, there are no major risks involved. The cost-effectiveness of vaccination with Zostavax® has been estimated at between €20,000 and €40,000 per quality adjusted life year (QALY).

Assessment of vaccination: individual, collective or public relevance?

The Committee concludes that vaccination against shingles is not eligible for inclusion in a public programme, such as the National Immunisation Programme. This is because shingles does not spread in a way that might pose a threat to the health of the population or that might be an impediment to the fabric of society. Nor is this an epidemic disease. Accordingly, it would not be reasonable for the government to organise and finance a vaccination programme.

Furthermore, according to the vast majority of the Committee, vaccination with Zostavax® involves no collective relevance. This would be the case if vaccination were to provide such substantial protection for all eligible individuals (of a significant target group) that it should be regarded as essential healthcare, equally accessible to the entire target group. In the opinion of the vast majority of the Committee this does not apply, as the effectiveness of the vaccination is too limited and the period of protection too short. Moreover, the current vaccine is not safe for individuals with a compromised immune system. Two committee members take a different view, however. They feel that, given the protection afforded by vaccination against PHN, this vaccination could be regarded as essential healthcare.

Even in the absence of a convincing public or collective relevance, individuals may have their own reasons for considering vaccination against shingles. Thus, it is important for market authorisation, for the registration of adverse effects, and for public information campaigns to be organised effectively. This requires infrastructure and public information that are aimed at potential individual users. It is important for such information to provide a balanced view of the drawbacks and risks of vaccination, as well as the benefits involved. Furthermore, healthcare professionals should be prepared for questions about vaccinations that are outside the public and collective domain. There should be a focus on this in the context of continuing education. Finally, the Committee recommends scientific research into the use of individual vaccination care at general practitioner's practices.

A view of the future

This advisory report relates to Zostavax®, the only vaccine against shingles currently available in the Netherlands. A new vaccine, which contains no live virus, is currently under development. It is expected that this may reach the market within a few years. At that point, according to the Committee, it might be appropriate to reconsider vaccination against shingles.