Screening for hepatitis B and C: Benefit unclear due to a lack of suitable studies

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Hepatitis B and hepatitis C are viral infections, which are mostly transmitted by blood. Often unnoticed, they can become chronic, causing irreversible damage to the liver. There is a discussion whether regular screening of the general population or of particular risk groups could contain these diseases, for example by early detection and treatment or by a changed risk behaviour of people with detected infection. Screening can also have disadvantages, however, such as triggering anxieties.

In hepatitis B and C: Do the advantages for affected people and for the total population outweigh the potential disadvantages? The German Institute for Quality and Efficiency in Health Care (IQWiG) has conducted a systematic assessment to answer these questions. In May 2018, it published two preliminary reports, inviting interested parties to submit comments. After the analysis of the comments submitted, the Institute now presents its final reports. The main result: Due to a lack of informative evidence, the benefit-harm balance of screenings for hepatitis B and hepatitis C remains unclear.

Modelling studies on risk-group screening

IQWiG also investigated current modelling studies. The models differed in their structure, their assumptions, the modelled periods, the effects determined and the planned interventions—for example, implementation of systematic screening, increase in treatment rates and improvement of

prevention measures such as needle exchange programmes.

The relative contributions of these possible interventions to the reduction of new hepatitis C infections remain unclear, however. A screening that falls far short of reaching the entire risk group, treatment discontinuations, or reinfections after treatment all can weaken the effect. The question to what extent the assumptions included in these models apply to the German health care context also remains largely open.

Nonetheless, the modelling studies suggest that screening of injection drug users could result in a notable long-term decrease in the prevalence of hepatitis C if the people infected receive subsequent treatment and are offered means to prevent transmission of the infection.

CPG recommendation for hepatitis C is plausible

Besides studies, IQWiG also assessed current clinical practice guidelines (CPGs). The CPG recommendations for a risk-group screening for hepatitis B are based on assumptions that are not plausible.

Some hepatitis C guidelines, however, make plausible assumptions on the possible advantages and disadvantages of screening of risk groups and certain birth cohorts, advocating hepatitis C screening limited to these groups on this basis. If such hepatitis C screening of risk groups is to be implemented, an accompanying evaluation would be important to reduce the uncertainties presented and to allow swift modification of the programme if necessary.

Requirements for an accompanying evaluation

Recording all people participating in the screening and a follow-up

observation that is as comprehensive as possible are essential. An estimation of the proportion of the risk group that actually participated in the screening is also necessary.

Parameters to be recorded include the numbers of liver biopsies, of antiviral therapies started, of completed therapies, of side effects, and of the people with sustained virologic response. Health-related quality of life in the years after the test or after treatment initiation should be recorded at least in a sample of the participants. The reinfection rate and the reasons for reinfection should also be investigated.

Establishing a control group would be the easiest way to find out whether and to what extent screening and subsequent treatment actually reduces the prevalence of hepatitis C. This could be done by initially implementing systematic risk-group screening in only some pilot regions, using the numbers from other regions as comparison.

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