Author’s response to reviews

Title: Significant proportion of acute hepatitis B in Poland in 2010-2014 attributed to hospital transmission: combining surveillance and public registries data.

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Author’s response to reviews:

Dear Editor,

Thank you for your comments, following the reviews the manuscript was corrected and supplemented in relevant section (and slightly shortened in method section). Reference list was also revised.

Changes are indicated in the text by using track changes, if other changes would be necessary, please inform us.

The datasets used and analysed during the study are available at the link: https://hermes.pzh.gov.pl/sharing/UwIXEq0iG

In response to the reviewers:

(Reviewer 1)

In the method section 'Data sources' the sentence has been added:

Line#100: "Reporting form for clinicians requires determining on what basis the disease was diagnosed (anti-HBc IgM, symptoms, epidemiological link or other). Cases reported as acute
who did not meet the criteria required for confirmed or probable acute hepatitis B were qualified as unknown HBV (as to phase) and were not included in this study”.

Manuscript was slightly shortened in method section - unnecessary repetition and specification of medical exposures were removed as obvious.

(Reviewer 2):

1. Author should comment on 19 acute cases in vaccinated birth cohorts:

The following excerpt was added in the end of results section:

Line #236 (in revised manuscript): “Acute hepatitis B cases in vaccinated birth cohorts. Of the 19 patients belonging to the vaccinated birth cohorts, 5 were classified as non-responders (fully vaccinated), 3 were vaccinated with 2 doses, 9 were unvaccinated (including 3 immigrants) and in 2 cases documentation was missing. Finally, there was one case of vertical infection that occurred despite prompt administration of HBIG and vaccine after birth.”

2. In the introduction section, author should explain about the prevalence of HBV infection in their country

You pointed out an a significant lack of information in our manuscript, the following sentences in background section have been added and relevant quoting:

Line #69: “The number of new acute infections depends also on the current prevalence of HBV infections which remain a source of new infections for the unvaccinated population. Prevalence of HBsAg reported in recent studies range from 0.9% to 1.12%. However, these data originate from studies conducted on subpopulations or small groups of people [12, 13]. An important source of information are data on HBV infections among blood donors - in the monitoring of blood donation within 20 years there was a decrease in the prevalence of HBsAg both among first-time (from 1% in 1994 to 0.3% in 2013) and repeat donors (0.1% to 0.02%) [14].

In addition to blood donors, all pregnant women, patients undergoing chronic dialysis, HIV-infected individuals, and persons applying for the refugee status are routinely screened for
HBsAg. Existing care pathways allow to link all diagnosed individuals into appropriate care, including treatment with NA and PegIFNα.”

3. Authors should discuss about their national policy on HBV diagnosis and management

Basic information about the national policy on diagnosis of HBV has been added in the background section together with the response to the comment No.2, and the following sentence has been added in the discussion:

Line #306: “Men born in the 80's and early 90's should also be targeted for HBV screening due to the possible higher prevalence of chronic HBV infections in this group [6] - acquired perinatally or in early childhood in the period before the introduction of universal vaccinations of newborns. Currently, this is the main gap in testing policy in Poland – younger men, especially PWID (current and former) and with risky sexual behaviors, are not targeted effectively by testing practice.”

4. Since a considerable proportion of acute cases are PWID and sexual transmission. The author should discuss on the aspect of HIV or HCV coinfection among them

The following excerpt was added in the results section:

Line #224: “In total, 17 of 459 acute hepatitis B cases were positive for anti-HCV, including two coinfected both with HCV and HIV. In addition, one person was diagnosed with HBV, HIV and syphilis, with a negative HCV test result. Furthermore, in 3 cases positive for anti-HCV, HCV-RNA test results were negative, which indicates HCV infection in the past. For 32% of patients with acute hepatitis B, HCV status was unknown.

Among 18 people coinfected with HCV and/or HIV, 6 reported injecting drug use. Further 9 people with HBV/HCV coinfection were infected with HBV by medical procedures and in 3 cases the route of transmission was unknown (all possible exposures were negated).

HCV co-infections were significantly more common among HBV cases infected by drug use than among those infected another way (35% vs. 3.7%, p =0.0001, in cases with complete information on transmission route and HCV testing). There were no HCV co-infections among people infected by sexual contacts, but there were 2 cases of syphilis.”
Thank you for all your valuable comments,

Best regards,

Małgorzata Stępień