Epidemiology of hepatitis C in Belgium : present and future

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Abstract

Based on currently available epidemiological data, Belgium appears to belong to the low endemicity countries for hepatitis C, with an estimated annual incidence of 3/100,000 clinical cases ; a survey among the Flemish population showed an overall seroprevalence of 0.87% (1993-1994). There was no statistically significant difference in anti-HCV prevalence between men and women. A significant increase of the anti-HCV prevalence with increasing age was observed. In the French Community there was an overall seroprevalence of 0.6%.

Developing surveillance for hepatitis C has proven to be difficult, since it requires confirmation tests. Techniques detecting hepatitis C antibodies in saliva will replace the need for serum samples, making prevalence studies more accessible. (Acta gastroenterol. belg., **2002**, 65, **78-79**).

Key words : hepatitis C, epidemiology, Belgium.

Introduction

Based on the prevalence of hepatitis C infection in different countries, the World Health Organization (WHO) estimates that 3% of the world population is infected with the hepatitis C virus (HCV). Roughly 170 million chronic hepatitis C carriers risk on the long term liver cirrhosis and/or liver cancer (1). The prevalence of HCV among blood donors in Europe ranges from very low (0.04-0.09%) in the UK and Scandinavia, to low (0.15-0.50%) in the rest of western Europe and moderate (0.61%) in southern Europe (2). Still the far most important risk group for hepatitis C infection in Europe are those that were (are) intravenous drug users at some stage in their life.

The current epidemiological situation

Based on currently available epidemiological data, Belgium appears to belong to the low endemicity countries for hepatitis C. A study in 1991-92, in the General Practitioner's sentinel network in Belgium revealed an incidence of clinical hepatitis C cases of 3/100,000 (95% CI : 2-6). All patients were between 19 and 78 years old, 50% older than 69 years. Compared to a similar study in 1982-84 (15/100,000), there was a statistically significant decrease in the estimated annual clinical hepatitis C cases : from 1,470 in the 1982-84 period to 327 in the 1991-92 period (3,4).

The prevalence of HCV in blood donors in Belgium was reported to be 0.6% (1992), and 0.8% in patients attending a sexually transmitted infection (STI) clinic (1990) (3,5).

A sero-epidemiological study was undertaken in 1993-94 in a sample of the general population in Flanders (6). The purpose of the study was to obtain a clear picture of the burden of disease caused by hepatitis A, B and C. Between April 1993 and February 1994, 4058 blood samples were drawn and collected in Flanders ; 4055 were tested for hepatitis C serology.

A similar study was performed in some age groups (0-14, 15-24 and 25-34 years) in the French community ; 1,460 samples were collected and 1,398 were tested for HCV (7,8). The sera were tested for HCV using an enzyme immuno assay technique (HCV EIA 2nd generation, Abbott Laboratories) and confirmation of the positive results was made by immunoblot assay (HCV MATRIX).

Mean age of the participants in the Flemish community was 40.2 y. (CI : 39.6-40.9). Of the 4,055 samples tested for HCV, 35 were positive (0.87% ; 95% CI : 0.5-1.1). There was no statistical significant difference for gender or nationality. HCV seroprevalence was 0.8% in men and 0.9% in women ; Belgians had an anti-HCV positivity of 0.8% (95% CI : 0.5-1.1) compared to 2.1% in non-Belgians (95% CI : 0.7-4.8) (p = 0.062, Fisher exact). An increasing prevalence was observed with increasing age, from 0.2% in the age group 0-14 years to 1.5% in the age group 55-74 years.

In the French speaking community mean age of the tested population was 19.6 y. (CI : 19.1-20.1). This study population does not reflect the general population as in Flanders, but intended to represent some younger age cohorts (5-9 and 18-29 years).

Of the 1,398 samples tested, 8 were positive for anti-HCV, representing a seroprevalence of 0.6% (95% CI : 0.3-0.9). There was no statistical significant difference in HCV prevalence according to gender. The seroprevalence in the 5-9 year and 18-29 year group was respectively 0% and 0.45% in the French community compared to 0.3% and 0.8% in the Flemish community.

Predominant mode of transmission

To document the predominant mode of hepatitis C acquisition, 104 hepatitis C patients were interviewed through their treating physician, in a separate study in

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the French community (1994) (7,8). Intravenous drug use and blood transfusions appeared to account for 28.8 and 27.9%, respectively. In 17.3% no known risk factor could be defined.

A prevalence study in the Antwerp region (early 90ies) among injecting drug users showed a hepatitis C prevalence of 57.3% (9). More recent data (2000) in injecting drug users in Antwerp and Limburg show a seroprevalence for HCV of 80% and 70%, respectively ; it was 17% in non-injecting drug users in Antwerp (Matheï C, personal communication).

The future

Developing surveillance for hepatitis C has proven to be difficult, since it requires confirmation tests. As an alternative, regular seroprevalence studies can be proposed.

Techniques detecting hepatitis C antibodies in saliva will replace the need for serum samples, making prevalence studies more accessible. These salivary tests will be developed and validated by the Institute of Public Health (funded by the Flemish Community).

Conclusion

A survey among the Flemish population showed an overall seroprevalence of 0.87%. There was no statistically significant difference in anti-HCV prevalence between men and women. An increase of the anti-HCV prevalence with increasing age was observed. In the French Community there was an overall seroprevalence of 0.6%. The population under study, however, was not representative for the whole French Community, because the recruited subjects were significantly younger.

In order to document the current burden of hepatitis C disease more accurately, new epidemiological studies are planned for the near future.

Literature

1. World Health Organization. World Health Day 1997/ Emerging infectious diseases. *WHD*, 1997, **1** :4.
2. VAN DAMME P., VELLINGA A. Epidemiology of hepatitis B and C in Europe. *Acta Gastroenterol. Belg.*, 1998, **61** : 175-182.
3. VRANCKX R., WALCKIERS D., STROOBANTS A., THIERS G. Seroepidemiological characteristics of hepatitis C encountered in general practice in Belgium. *Eur. J. Clin. Microbiol. Infect. Dis.*, 1992, **11** : 62-64.
4. DEVROEY D., VAN CASTEREN V., VRANCKX R. Evolutie van de incidentie van klinische acute virale hepatitis in de Belgische huisartsenpraktijk. Registratienet van de huisartsenpeilpraktijken – resultaten van 1991 en 1992. Rapport Instituut voor Hygiëne en Epidemiologie, 1997, 33 p.
5. VRANCKX R. Sexual transmission of hepatitis C virus. *Br. Med. J.*, 1991, **303** : 783 (letter).
6. BEUTELS M., VAN DAMME P., AELVOET W., DESMYTER J., DONDEYNE F., GOILAV C., MAK R., MUYLLE L., PIERARD D., STROOBANT A., VAN LOOCK F., WAUMANS P., VRANCKX R. Prevalence of hepatitis A, B and C in the Flemish population. *Eur. J. Epidemiol.*, 1997, **13** : 275-280.
7. LETAÏEF H. Hépatite C en Belgique : seroprévalence et facteurs de risque. IMTA/MScBT/C7 1995, n° 10. Thesis, master of Science in Tropical Biomedical Sciences, Institute of Tropical Medicine, 1995, 37 p.
8. VAN LOOCK F., RUBBENS C. Rapport d'enquête sur la prévalence de l'hépatite B en Communauté française de Belgique. Institut d'Hygiène et d'Epidémiologie. D/1994/2505/24.
9. GOILAV C., TODTS S., VERCAUTEREN G., GIGASE P., PIOT P. Increasing prevalence rates of anti-HCV antibodies by duration of drug injecting behaviour of a group of injecting drug users in Antwerp. 5th National Forum on Aids, hepatitis and Other Blood-borne Diseases, Atlanta, 29 March 1992-1 April (abstract No. p. 14), p. 37.