

Viral Hepatitis Prevention Board

Burden and prevention of hepatitis in Portugal

**LISBON, PORTUGAL
18-19 November 2010**

Objectives

- Provide an overview of surveillance systems for infectious diseases
- Review the epidemiology of viral hepatitis in Portugal and current measures to prevent and control viral hepatitis
- Discuss progress in prevention 10 years after the introduction of universal vaccination against hepatitis B
- Review implementation of new prevention strategies, control measures and monitoring systems
- Discuss the successes, the way forward and possible obstacles

General observations and context

Portugal: population (about 10.5 million) with a large percentage of young people
Transformation of public health situation

- Improved socioeconomic conditions
- Universal vaccination with HBV introduced 10 years ago
- Consequent changing epidemiological patterns
- Decriminalization of drug use and needle-exchange programmes
- Involvement of civil society
- Open-mindedness and ability to have frank exchanges of views
- Reform of the health system
- New health information system backed by legal framework a major step forward

A general picture for viral hepatitis of declining prevalence rates of hepatitis B and C but increasing burden of disease due to HCV

Many pockets of excellence in Portugal

World Health Assembly resolution and WHO drafting a comprehensive strategy

Resolution legitimates governments to act

“2010-2020 decade of vaccines” (Bill & Melinda Gates Foundation: US\$ 10 billion)

Health structure

- Mixed public-private health sector
- Four laboratories in private sector
- Ministry of Health
 - Directorate-General of Health, DGS
 - Five regional public health departments plus two autonomous regions
 - 74 regional public health offices
 - 97 hospitals
 - 40 national public health plans (but not one for control of viral hepatitis)

Health information system

- Aims to create and improve knowledge and action through using evidence, raising quality and applying web-based technology
- Compulsory, paperless notification system combining clinical and laboratory data
- Automated bidirectional transfers of data with anonymizing and un-linking of data at higher levels, and analysis of data at DGS level
- Contributes to the European surveillance system
- Validates ECDC's role in regional policy-making and setting of norms and standards (e.g. by adopting the European List of Communicable Diseases)

Health information system (2)

- System will be launched on 1 January 2011
- First phase will introduce virtual death certificates, the national information system for epidemiological surveillance, and a national immunization registry
- Electronic health records and prescriptions scheduled to follow later in 2011
- Said to satisfy society's concerns about ethics and privacy; same confidentiality as with the paper system but better protection of data
- Enhanced reporting by clinicians
- As with all new systems, many issues will have to be resolved after launch, including user acceptance, quality control and full engagement of all parties

Epidemiology

- Cirrhosis of the liver among the top 10 causes of death in Portugal, but difficulty in attributing mortality to viral hepatitis (acute and chronic disease, hepatocellular carcinoma), co-infection, HIV and other causes; inclusion of other causes will raise its position in the ranking
- Under-reporting and under-ascertainment are problems
- Costs for treating liver disease greatly exceed those for colon, lung or breast cancer in Portugal
- National particularities – migrants from former colonies, eastern Europe and China, veterans of the colonial conflict (1966-1974): an estimated 0.5 million people

Epidemiology – hepatitis A

- Changing epidemiology as socioeconomic conditions improve
- Portugal is in transition with most of younger population becoming susceptible to HAV infection; hepatitis A will become a disease of adults as more of the population becomes susceptible and disease in adults is more severe
- Vaccination of travellers to areas with high prevalence of HAV recommended
- Anti-HAV testing is a cost-effective strategy especially for HCV-positive patients
- Arguments for and against universal vaccination against hepatitis A; Government maintains that it is costly and not a priority

Epidemiology - hepatitis B

- Universal vaccination policy proved more reliable and effective than previous risk-based policy with incidence falling to low levels
- Decline in acute cases of hepatitis B since introduction of universal vaccination, including paediatric disease
- Coverage of 10-14 years cohort is now 95%, with comparably high figures for full vaccination at birth and at 12 months
- Several studies indicate that Portugal is now a country with low prevalence of HBsAg (about 0.5-1.0%) – WHO and ECDC categorization needs updating
- National-level data hide high rates in specific groups (e.g. immigrants, possibly 5%, and IDUs, 4%)
- Different patterns of transmission for males and females (mainly intra-familial) were observed

Epidemiology – hepatitis B (2)

- When other contributory factors related to hepatitis B virus infection are included, deaths due to hepatitis B (estimated to be >310) may be 15 times higher than official statistics
- More than 210 hospital admissions for acute hepatitis B each year (at a total cost of €830,000)
- Demography of paediatric cases reflects migration from former colonies; mostly perinatal transmission although some familial transmission
- Treatment of paediatric cases raises complex questions
- Genotyping of HBV in HBsAg-positive subjects showed predominance of type D, A and some E (adult and paediatric cases) and links with immigration
- Hepatitis D not a problem in chronic carriers

Epidemiology – hepatitis C

- Prevalence of both acute and chronic infections also not known with certitude, but estimated to be 1.0–1.5%, with highest rates in IDUs, young adult men aged 15-34 years; north-south gradient
- Under-reporting and under-ascertainment problems
- Besides IDU, main risk factors are previous surgery, sex and receipt of blood transfusion
- Hepatocellular carcinoma due to HCV increasing
- Co-infection with HBV and/or HIV worsens pathology and prognosis
- Limited data on hepatitis C in children, but in most cases the virus is transmitted perinatally, most infections progress to persistent viraemia, although viral clearance is possible

Epidemiology – hepatitis C

- Systematic screening of anti-HCV-positive pregnant women not recommended, but screening is recommended for pregnant women with risk factors
- Arguments for and against treatment of infected children but consensus is to start treatment after 3 years of age and before adolescence; many questions remain unresolved
- HCV genotyping indicates pattern similar to other southern European countries: types 1 (>50%, mostly 1b), 3a and emerging 4c/d subtype (possibly linked with migration)
- Genotype associated with natural course and treatment response in paediatric disease
- Examination of predictors of sustained response to HCV infection showed no viral factor but identified percentage of CD8+ T lymphocytes as a host factor

Epidemiology – hepatitis E

- Study analysing cases where possible excluding those associated with travel to areas where hepatitis E is endemic indicates a low prevalence, possibly about 3%
- Data sources are heterogeneous populations, including IDUs, hospital discharge data and blood donors
- Little known about zoonotic links or seroprevalence rates in animals
- Under-reporting due to limited testing (doctors' reluctance, difficulties in access) and not being notifiable (even in new information system)

Specific aspects and groups

- **Pregnancy**
 - Prevention of perinatal transmission of HBV done through screening and immunization (HBIG and vaccination) and antiviral therapy, but no approved treatment for HCV
 - Particular concerns for women with IDU risk factor, HIV infection and immigrants from Africa
- **Blood donors**
 - First-time blood donors have low rate of HBsAg (0.22%) and HCV (0-28%)
- **IDUs**
 - Nation-wide network of clinics and centres
 - Marked decline in number of IDU but increased attendance at outpatient clinics
 - Low proportion of NGO-run syringe-exchange programmes provide testing and counseling for HCV (44%) and HIV (16%)
- **Co-infection**
 - HCV (mostly genotypes 1 and 3) detected in 40% of HIV-infected population, but number of co-infections declining
 - Co-infected patients must be treated in order to reduce mortality

Haemodialysis and renal transplant recipients

- Chronic HBV and HCV infections are the main causes of liver disease in these patients, for whom antiviral therapy should be considered
- Prevalence of HBsAg in haemodialysis patients has declined since 1990s to around 1% and anti HCV similarly to about 5%
- Chronic HBV and HCV infections shorten survival in transplant recipients for whom liver biopsy is recommended as the stage of liver disease is important for prognosis
- Despite poor response, vaccination of haemodialysis patients against hepatitis B is recommended before end-stage disease; experience shows dramatic reductions in prevalence of HBV infection after prophylaxis including vaccination
- Treatment is practicable: tenofovir or entecavir for haemodialysis patients and entecavir for renal transplant recipients
- During haemodialysis screening, vaccination against HBV, prophylaxis against HCV infection and evaluation before renal transplantation should be mandatory and antiviral therapy is recommended
- Liver transplants – considerable experience available in large centre for all groups

Disease burden

- **Economic aspects**
 - Analysis of data from national database of hospital admissions indicates a substantial social and economic burden of liver disease, with high inpatient costs
 - Considerable burden in people in the active phase of their working life (20-64 years) in terms of economic impact, and due to premature death (years of lost life)
 - Direct and indirect costs for cirrhosis and hepatocellular carcinoma much higher than for hepatitis B and C
 - Data on length of stay and mortality indicate that they are above the national average
 - Considerable burden of alcohol-related liver damage and interaction with viral hepatitis

Civil society

- Nongovernmental organizations and patients associations are active – example of SOS Hepatitis Portugal which has disseminated information for the public and health professionals in a variety of media, organized conferences, promoted training of psychologists and nurses, and given support to patients and families
- Valuable experience from HIV prevention showing applicability of syringe-exchange programmes (4-5 million syringes each year) to prevention of viral hepatitis – successes (including writing of best practices which led to development of national guidelines) and failures (kits not distributed in prisons)
- Promotion of liver health – example of feasibility with Liver on Tour project

Needs, issues and proposed steps forward

- Need for a strategic committee and focal point – a “Mr/Ms Hepatitis”
- Implementation and evaluation of national health information system, with quality control and analysis of data
- Continued review and, as appropriate, updating of case definitions, disease lists and information systems
- Reach consensus on policy for vaccination against hepatitis A, including effectiveness of immunization for outbreak control, on use of combination vaccines and on role of screening
- More information is needed on prevalence of HBV infection in various groups including migrants and on HCV disease in war veterans
- Better data are needed on HCV infection in groups at risk, including haemophiliacs and IDUs
- Reduce harmful consumption of alcohol at population level to reduce burden of disease in itself and that related to hepatitis B and C

Needs, issues and proposed steps forward (2)

- Initiatives to diagnose unrecognized infections and patients' lack of awareness of their infection
- Social workers need to be involved with pregnant women found positive for HBsAg on screening and their families and contacts
- Need to consider relative risks (alcohol, injectable drugs, etc)
- Examine issues surrounding use of auto-disable syringes in prevention kits (cost differential with re-usable syringes is marginal)
- Need to expand access to clean injecting equipment and harm-reduction kits, especially in rural areas
- Draw on experience of other countries and sectors (e.g. HIV)
- Consider issues relating to coordination (need for focal points) and management of plans (designation of responsibilities)
- Need to highlight the role of HCV in mortality from liver disease

Needs, issues and proposed steps forward (3)

- Identify costs and benefits of screening
- Further studies are needed to determine the contribution of hepatitis B to mortality from liver disease and the association of genotypes with pathology and response to treatment, including subtyping
- Special attention needs to be given to the contribution of immigration from former colonies to the prevalence of viral hepatitis and to infection in war veterans and other particular groups (e.g. Roma)
- Further studies on prevalence of hepatitis E, including genotypes and risk factors such as links with animals and occupation

Recommendations

- Portugal should be reclassified as a country of low endemicity for hepatitis B
- Consider establishment of a central body to evaluate implementation of policy of screening of pregnant women for HBsAg and their immunization
- Awareness of viral hepatitis must be raised in both the general population and among health professionals, including policy-makers
- Efforts should be made to increase the diagnosis of hepatitis C as that will lead to increased treatment which can be curative; general practitioners should be encouraged to check for HCV infection
- Consideration should be given to making testing available free of charge or reimbursable (anti-HCV and HBsAg)
- As viral hepatitis cuts across several disciplines, public health experts, vaccinologists, gastroenterologists, liver specialists, other experts and civil society should be closely involved in the decision-making process with a view to the possible creation of a national public health programme on liver disease