



World Digestive Health Day: Viral Hepatitis May 29, 2007

Eradication of Hepatitis B virus infection in the State of Amazonas

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Introduction

In Brazil, infection by the hepatitis B virus (HBV) is a major public health problem, particularly in some areas of the north Amazon region and especially in the State of Amazonas.

Hepatitis B infection exhibits different regional levels of endemicity (figure 1). In the south and southeast regions of the country, the prevalence of infection is generally low, whereas in the northeast and the center-western regions, infection rates are intermediate. Before the program of vaccination, elevated rates of HBV carriage were found, principally in the west. In 1998, the prevalence of asymptomatic carriers of HBsAg in the State of Amazonas was estimated to be 16.7% (220,000 carriers).

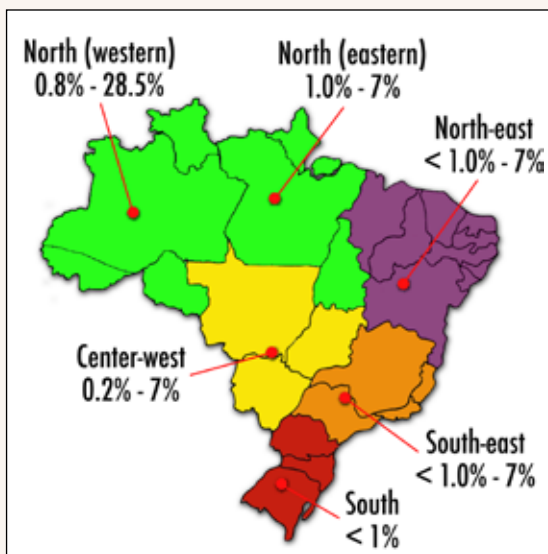


Figure 1. Prevalence of hepatitis B virus in Brazil based on HBsAg prevalence rates.
(Fonseca JCF et al, 1987)



A small village in the rural zone of the State of Amazonas, Brazil where HBV and HDV infection are endemic. (J. Fonseca)

The presence of HBsAg affects all age groups. Indices of 10% are common in children under 4 years of age. 60% of children were infected by age 10 and markers of infection (anti-HBs) can be found in 60% of 14-year-olds. Prior to 1994, 7.4% of deaths in the State of Amazonas were attributed to hepatitis, more than twice those due to Malaria (3.3%). The Amazon Brazilian basin is also a high endemic area for hepatitis delta virus (HDV) infection, with a prevalence of 26.9 %, whereas it is virtually non-existent in the rest of Brazil. Liver cirrhosis due to HBV and HDV infections is one of the ten major causes of death in the State of Amazonas.

Several factors contribute to the dissemination of HBV in our region. Horizontal transmission is the main mode of spread. Family contacts, a high need for early dental care, early sexual activity, promiscuity, and poor socio-economic and sanitary conditions all play important roles in the dissemination of the virus. Vertical transmission is surprisingly rare. (continued on next page)

Eradication of Hepatitis B virus infection in the State of Amazonas (continued)

Strategies to control Hepatitis B infection in the State of Amazonas, Brazil.

Based on this information, we developed a project to control HBV infection in the State of Amazonas in September 1987. This project was supported by the Brazilian Ministry of Health and Amazonas Government. The authors of this Project were: José Carlos Ferraz da Fonseca, Leila Melo Brasil and Wornei Miranda Braga (researchers of the Fundação de Medicina Tropical do Amazonas). Strategies were based on recommendations made by the Viral Hepatitis Consultative Commission of the Ministry of Health, Brazil. In 1988, our first task was to develop a program which educated local populations living in 11 hyperendemic areas about the benefits of immunization. The program was implemented in two phases.

Phase I In hyper-endemic areas of HBV and HDV infection, including the rural and urban populations of 11 counties, all children 0 to 9 years old were vaccinated (without previous screening). The target group included 27,893 in urban areas and 56,127 in rural areas. In Phase II, vaccination was gradually extended to the remaining counties of the western Amazon region, vaccinating children 0-4 years of age.

Following these campaigns, vaccination was targeted toward: a) all newborns (integration of the vaccine into the National Programme of Immunization); b) immigrants to the north Amazon area; c) all health care providers; d) multi transfused patients; e) chronic renal disease patients undergoing dialysis; f) Hansen's disease patients; g) institutionalized (high risk patients); i) those of Asian origin; j) military personnel; k) indigenous populations; l) householders of HBsAg positive people; m) high risk groups (male homosexuals, sex workers, intravenous drug abusers).

In October, 1989 (urban area), the vaccination program against HBV infection was initiated, using three doses,

10 mcg recombinant DNA hepatitis B vaccine, on a 0, 1, 6 month vaccination schedule. In January, 1990 the program was extended to the rural areas. Parallel to this special program, we conducted a pilot study to evaluate the immunogenicity of two different doses (10 mcg and 20 mcg) of this vaccine in the village of Codajás (Solimões River, State of Amazonas), an HBV and HDV hyperendemic area.

After one year this special program was extended to 14 municipalities in the State of Amazonas, along with the initiation of the vaccination program among health workers. During 1991, the vaccination program covered all children from 0 to 4 years old living in the 60 municipalities in our area. In 1992 the vaccine against HBV infection was integrated into the Regional Program of Immunization of the State of Amazonas, Brazil. HBV vaccination was incorporated into the National Program of Immunization in 1995, including Public Health workers and high risk groups of patients.

Results of hepatitis B vaccination program in the State of Amazonas, Brazil

In the first year, coverage of HB vaccine (special program) was extremely high with an estimated 82,020 children vaccinated. 97.5% of the target population received the first dose, 89.6% the second dose and 78.1% the third dose.

Four years after the start of vaccination, the percentage of seroconversion (anti-HBs > 10 IU/l) was 79% (10mcg) and 95.2% (20 mcg), $p < 0.05$. High geometric mean titers of antibody were observed at 237.0 IU/I and 610.0 IU/I with 10 mcg and 20 mcg,

respectively. The high anti-HBs titers observed in some children are probably the result of a natural booster response after contact with HBV.

By October 2006, the number of children < 1 year old fully vaccinated in the State of Amazonas was 658,920. In our region, from 1994 to 2004 a total of 973,704 individuals from 1 to 20 years old received three doses of vaccine. It is estimated that 45.2% of the general population living in the State of Amazonas have now been vaccinated. Changes in the prevalence of HBsAg carriers and the incidence of HBV acute viral hepatitis in hyperendemic areas 10 years after starting the immunization programme (1989-1999) were dramatic. HB immunization reduced the prevalence of carriers of HBsAg from 15.3% to 3.7% in the village of Lábrea (Purus river) and from 16.7% to 5.8% in the of State of Amazonas (figure 2).

Before the mass vaccination in hyperendemic areas, the etiology of acute hepatitis was HBV in 51.4% and the HAV in 42.1% of the cases. Ten years after the mass vaccination 94.6% of acute hepatitis was due to HAV and only 3, 8% HBV. These results indicate that universal vaccination of infants less than nine years old and the integration of HB vaccine into the National Program of Immunization was effective in dramatically reducing the endemic status of HB infection in the general population, even in the highly remote rural villages.

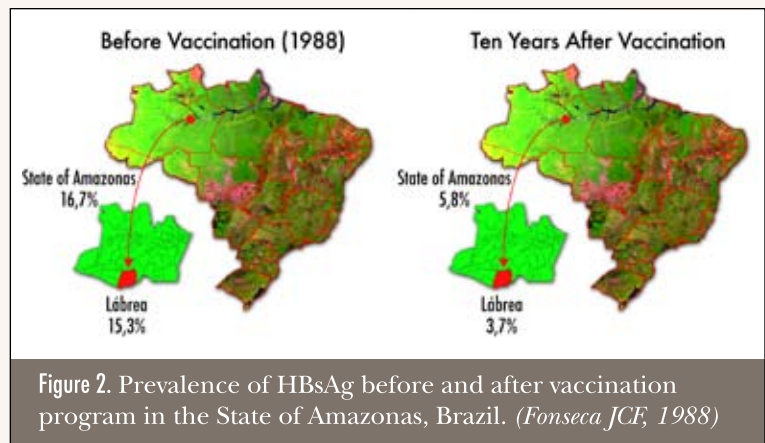


Figure 2. Prevalence of HBsAg before and after vaccination program in the State of Amazonas, Brazil. (Fonseca JCF, 1988)

World Digestive Health Day 2007—Viral Hepatitis

Every year on May 29, the World Gastroenterology Organisation celebrates “World Digestive Health Day” in order to draw the attention of the global medical community to an urgent and overlooked world health issue. In 2007, we will spotlight viral hepatitis. Almost 400 million people are chronically infected with hepatitis B, and about 200 million are chronically infected with hepatitis C; together, these diseases are responsible for the majority of hepatocellular cancer cases, the third leading cause of cancer death worldwide. A number of projects are planned for World Digestive Health Day 2007: Viral Hepatitis. We thank the members of the WDHD committee and the multiple authors and national societies who have contributed to the many projects listed below.

WDHD Newsletter

This newsletter is intended to put a human face on viral hepatitis. It will be distributed during Digestive Diseases Week 2007 and on the WGO website. This publication tells “the story of hepatitis” in various countries around the world, focusing on problems in individual countries and efforts to solve them. We have gathered and edited articles and photographs that provide an overview of the current state of hepatitis around the world and approaches that are being taken to address this problem in various countries. In some cases the articles had to be abridged slightly to fit our format. References and some pictures were also edited but will be included when the articles become available on the WGO website. In toto, the various authors provide a remarkable picture of this major public health problem and the need to attack it aggressively.

Hepatitis B Guideline

In May 2007, WGO will release a new Hepatitis B Guideline which will be distributed on the website and at UEGW 2007 (and possibly AASLD 2007) in pocket format. This guideline will be developed using our “cascade” technique, which provides recommendations for management and treatment, regardless of what resources are available. The Project Team working on this guideline is chaired by Professor Jenny Heathcote and includes a group of world-renowned hepatologists representing all regions of the globe.

Hepatitis Vademecum

A compendium of the most important, freely accessible articles on viral hepatitis has been compiled. The list will be distributed at our booth during DDW and is available on the WGO website.


National Member Society activities

WGO member societies have answered the call to organise events on WDHD. A variety of additional activities related to World Digestive Health Day 2007: Viral Hepatitis will therefore take place around the world as organized by local member societies.


We believe these projects are absolutely essential to publicize and educate the global community about the importance, prevalence and care of hepatitis. World Digestive Health Day is an important global educational event that has the power to improve the quality of life for millions of patients worldwide. We look forward to the active participation and support of our 99 member societies and almost 50,000 individual members, as well as national and regional societies, government bodies and industry.

Co-chairmen World Digestive Health Day




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Hepatitis B Eradication Day: It's Never too Late !!

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Hepatitis B virus [HBV] is probably the most important chronic viral infection affecting Indians. However, despite the development of an effective vaccine against HBV, this infection remains a serious threat to public health in India. Several studies from India have reported a HBV prevalence rate of 3% to 6%. However, these data are known to underestimate the prevalence of chronic HBV Infection for a number of reasons. India has a population of

approximately 1000 million today, and assuming a lower prevalence rate of 3%, India still harbors approximately 30 million HBV carriers. HBV is a leading killer among all infectious agents, and a modest estimate would put the number of deaths occurring due to HBV infection per year in India to be around 100,000.

HBV is responsible for about 68% of cirrhosis of the liver, and 80% of hepatocellular carcinoma in India. In spite of the fact that HBV is a major killer in India and the infection is easily preventable, it's a shame that this killer is allowed to continue its deadly attack on the Indian population. A deci-

sion-analytical model estimates that in India, vaccination would save 25 lives per 100,000 population per year. How long can this be allowed despite the tremendous strides made in the field of HBV prevention?

Control of Hepatitis B infection by vaccination is now within our grasp, and elimination of HBV infection has consequences far beyond the prevention of acute disease. Hence, it is very unfortunate that very little is being done in India to contain this continuing carnage. Compare this with the AIDS scenario and the contrast is striking. Diagnosis of a few cases of AIDS is sufficient to make headlines in this part of



Free Hepatitis B vaccine provided in destitute home.



the world while thousands of patients with severe liver disease due to this viral infection languish and die without a squeak. Special cells have been set up in different parts of the country to monitor and check AIDS and regular workshops are organized with funds flowing in abundance to take care of these activities.

Hepatitis B and its sequelae occur predominantly in young people, which poses a high and avoidable economic burden on society and a pathetic waste of precious human capital. Unfortunately, the vast majority of researchers and healthcare professionals working in this area are just busy computing the prevalence of different viral markers in different subsets of patients and treating the affluent minority afflicted with this infection. The vast majority cannot afford the costly medical treatment and the State does not fund the treatment of the poor who are afflicted with this infection. Thus, despite all the advances made in serodiagnosis, vaccines and treatment of HBV infection, a large proportion of the popula-

tion is deprived of the benefits of these advances – partly due to the high costs involved, but also to a large extent due to a lack of commitment on the part of the health delivery system. The latter not only includes the government health care machinery but also the doctors. Doctors have failed to motivate the government to evolve steps to contain the killer at large. The medical community has done little to use the media to educate the public about the silent killers other than “HIV” which are lurking around in the dark. The hapless victims continue to remain ill informed and ill prepared to defend themselves.

It's time we act and take appropriate measures to remove the darkness by generating public awareness about different aspects of the disease, including the preventive aspects, and arrest the killer by evolving and adopting the optimum strategies for preventing viral hepatitis B. We must enlighten and convince the government holistically about the magnitude of the problems of viral hepatitis and the need to in-

clude hepatitis B vaccination in India's immunization program straightaway as per WHO recommendations. The steps taken by the Kalinga Gastroenterology Foundation in this regard are laudatory. The Kalinga Gastroenterology Foundation [KGF] has been observing Hepatitis B Eradication Day every year on 28 July [since 2001], the birthday of Nobel Laureate Prof BS Blumberg who discovered the Hepatitis B Virus and developed the first vaccine against Hepatitis B. The two apex bodies in the field of Gastroenterology and Liver diseases in India, the INDIAN Society of Gastroenterology [ISG] & Indian Association for Study of the Liver [INASL] have also come together and have been organizing HEPATITIS B ERADICATION DAY on 28th July. This has boosted the campaign to educate the public about Hepatitis B and to spread the message of the necessity of vaccination for Hepatitis B to eradicate the killer infection. Come Join the War against Hepatitis B. To generate greater awareness amongst the masses and to give the Hepatitis B Eradication Movement a much-needed stimulus, Hepatitis B definitely deserves a day dedicated to this cause. Gastroenterologists and hepatologists all over the world are exhorted to join this fight and join us and prevail upon others to observe 28th July as HEPATITIS B ERADICATION DAY. It is never too late !!



Budhia Singh, the amazing marathon runner, flagging off the Hep B Awareness Rally on Hep B Awareness Day.

Viral Hepatitis and Schistosomiasis in Egypt

By Gamal Esmat, MD and
Maissa El-Raziky, MD, Cairo University

In Egypt, schistosomiasis was traditionally the most important public health problem and infection with *Schistosoma mansoni* was the major cause of liver disease. The story of viral hepatitis in Egypt dates back many years and is closely tied to that of *Schistosoma mansoni*. A new portion of the story is revealed every time a serological marker for a new virus that causes hepatitis is discovered.

Enterically Transmitted Viral Hepatitis

Hepatitis A: Hepatitis A viral infection (HAV) used to be a universal childhood infection. Earlier studies in children below 10 years of age revealed 98-99.8% seropositivity for previous HAV infection. In this age group the disease is usually mild and passes unnoticed or produces minimal symptoms and a benign, uncomplicated, short course. During the past decade an age shift of HAV infection was documented due to improvement of sanitary environmental conditions. HAV now frequently infects adolescents and young adults resulting in a prolonged disease course and complications. This age shift warrants the use of hepatitis A vaccine in certain groups on an individual basis, but it is not included in the compulsory vaccination program.

Hepatitis E: The epidemiology of hepatitis E virus (HEV) is not fully understood. Prevalence of HEV antibodies in rural Egyptian communities is very high, reaching 70% in some locations. However, cases of HEV-caused jaundice and liver disease are rare and the severe acute hepatitis documented elsewhere as occurring with high frequency in pregnant women has not been reported. Reasons for the lack of clinical hepatitis remain unclear but it could be attributed to early childhood HEV exposure, producing long-lasting immunity and/or modifying subsequent responses to exposure. Alternatively, the predominant HEV strain(s) in Egypt may be less virulent than those found in South Asia.

Parenterally Transmitted Viral Hepatitis

Hepatitis B and C (HBV, HCV) are, and will remain for some time, major health problems in Egypt. Both infections can lead to an acute or silent course of liver disease, progressing from liver impairment to cirrhosis and decompensated liver failure or hepatocellular carcinoma (HCC) over a 20-30 year period. Prognosis may be worse with schistosomiasis coinfection.

Hepatitis B: The prevalence of HBsAg decreased from 10% in the 1980s to approximately 3% in the last decade. This coincided with a decline in the relative contribution of HBV to the development of HCC. Blood bank screening, using sterile needles for injection, and the compulsory vaccination of newborns implemented in 1993, are the main preventive measures undertaken to reduce the risk of infection. However, HBV is still responsible for about 30% of adult patients presenting with acute viral hepatitis.

Hepatitis D: Also known as Delta infection, HDV accompanies HBV as a co-infection or as a super-infection. It was found in as many as 10% of chronic HBV patients. Delta infection often worsens the outcome in these subjects.

Hepatitis C: While not identified until 1989, the hepatitis C virus has been around for a very long time. Many infected people do not know that they have the virus because it is usually asymptomatic and the symptoms of complications may not show up for 20 to 30 years. From the 1950s until the 1980s, the Egyptian Ministry of Health undertook large campaigns to control schistosomiasis using intravenous tartar emetic, the standard treatment for schistosomiasis, as com-

munity-wide therapy. This commendable effort to control a major health problem unfortunately established a very large reservoir of HCV in the country. It is becoming a daily scenario in medical practice that a young person unexpectedly discovers the presence of HCV infection during his pre-employment screening. As a result, all his plans, priorities and quality of life are changed.

Egypt has a population of 75 million and contains the highest prevalence of hepatitis C in the world. The national prevalence rate of HCV antibody positivity was estimated to be between 10-15% in 1996. Genotype 4 represents over 90% of HCV cases in Egypt. Since 30-40% of individuals clear the infection shortly after exposure,

based on national studies and village studies in Egypt, the estimated adjusted national prevalence rate of chronic hepatitis C infection is 7.8% or 5.3 million people. Only one third of these individuals (2.5-3 million) are estimated to have chronic liver disease; among them, 700 thousand subjects will develop liver cirrhosis and 140 thousand HCC.

In spite of practicing screening of blood for transfusion and using sterile, disposable needles, the prevalence of HCV in those under age 20 is still approximately 5-8%, demonstrating the continued presence of significant inapparent modes of hepatitis C transmission in Egypt.

The availability and cost of treatment for hepatitis C in Egypt is quite prohibitive. But the Ministry of Health is implementing a health care insurance program to reduce the cost of therapy to one third of its initial price.



"C" the Problem: Be Part of the Solution

Tina M. St. John, MD for the Hepatitis C Caring Ambassadors Program, a division of the Caring Ambassadors Program, Inc.

Hepatitis C is the most common, blood-borne chronic viral illness in the United States, with 1 in 50 persons already infected with the virus. The disease burden of chronic hepatitis C among Americans is three to five times that of HIV/AIDS. Despite the enormity of the problem, nongovernmental organizations are conducting the yeoman's share of hepatitis C education efforts.

The Hepatitis C Caring Ambassadors Program (HCCAP) has been at the fore of hepatitis C information, education, and advocacy efforts since 1999. A national nonprofit organization, HCCAP is involved in numerous activities throughout the country each year, all to accomplish the mission of improving the health and longevity of people living with hepatitis C.

"We are thrilled that WGO has selected hepatitis as the focus of World Digestive Health Day 2007," said Lorren Sandt, Program Manager of HCCAP. "With all of the resources we are so fortunate to have in the U.S., it is truly mind-boggling that an estimated 75% of Americans with hepatitis C have yet to be diagnosed – let alone be evaluated for

possible treatment. WDHD is a fabulous opportunity for us to help raise much-needed awareness about hepatitis C."

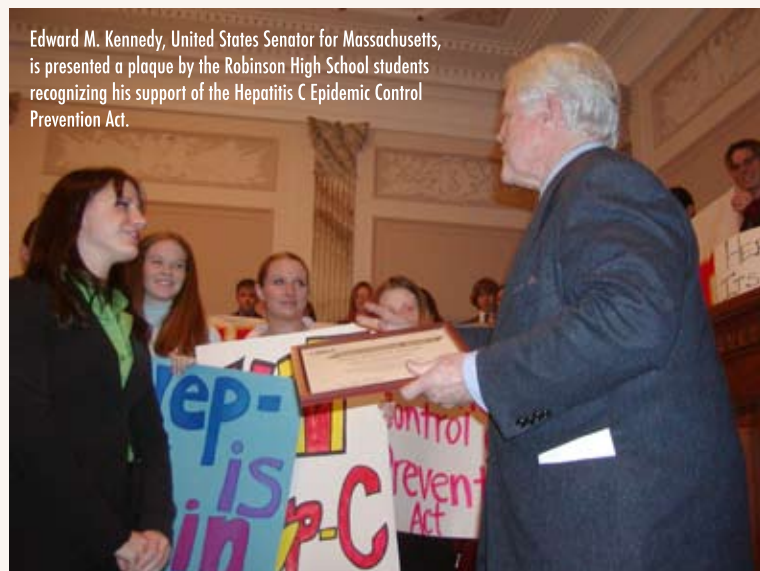
Recognizing that hepatitis C knows no boundaries and affects people of all ages, races, and ethnicities, HCCAP conducts educational and awareness activities in a variety of venues, with a range of formats, and differing target audiences. For example, HCCAP has worked closely over the years with the marketing club (DECA) of Robinson High School in Fairfax, Virginia. With HCCAP's help, DECA has conducted hepatitis C awareness campaigns in the Washington, D.C. area that included a rally on the steps of the Capitol (see photos). Together, HCCAP and DECA were successful in getting a Congressional hearing with the House Government Oversight and Reform Committee to review the federal response and gaps therein with respect to a national strategy and initiative for hepatitis C control and prevention. HCCAP has also been instrumental in urging the introduction of federal legislation during the past two Congressional sessions, and will be working hard through the current session for the reintroduction and passage of the Hepatitis C Epidemic Control and Prevention Act.



living that challenge those with hepatitis C. Although the book was conceived and written for a patient audience, it is in high demand by many in the public health community, and among primary and mid-level practitioners. In 2005, HCCAP distributed nearly 7,000 copies of Hepatitis C Choices to clinics and public health agencies in 35 states. Hepatitis C Choices is available electronically free-of-charge on HCCAP's internet site at www.hepcchallenge.org.

HCCAP will be conducting many special events and activities, and collaborating with the more than 20 member organizations of the National Hepatitis C Advocacy Council throughout the month of May to draw attention to the magnitude of the hepatitis C problem and to raise public awareness. "Our primary goal is to have the general public understand enough about hepatitis C to be able to self-identify as possibly having been exposed so that they are able to seek counselling and testing," noted Dr. Tina M. St. John, Executive and Medical Director of the Caring Ambassadors Program. "We have an obligation to educate people about the potential sources of exposure to hepatitis C, to provide them the opportunity to avail themselves of the treatments available, if needed."

Distribution of educational materials, spot advertising, and internet-based activities will round out the Hepatitis C Awareness activities. Log-on to www.hepcchallenge.org for the latest updates on Hepatitis C Awareness Month activities.



Edward M. Kennedy, United States Senator for Massachusetts, is presented a plaque by the Robinson High School students recognizing his support of the Hepatitis C Epidemic Control Prevention Act.

HCCAP is also the editing body and publisher of the book, Hepatitis C Choices. The book is a patient-oriented text that comprehensively addresses not only hepatitis C management choices, but also issues of day-to-day

Viral Hepatitis in Portugal

Guilherme Macedo MD, PhD, FACC

It is clear to the Portuguese medical community that cultural vectors influence the origin and pattern of liver disease among us. Viral hepatitis and alcoholic liver disease are paradigms of this assumption. Chronic liver disease is responsible for 3% of the deaths in Portugal, and is one of the top ten causes of death in our country. Liver transplantation was only begun 15 years ago, and about 200 patients are transplanted yearly in 3 centers. The recognition of this fact by Public Health authorities, along with the national net of Hepatology outpatient consultation in Public Hospitals, has brought liver diseases to the attention of doctors and raised public awareness of its dimensions.

Alcoholic liver disease is a dominant concern in this country. Several reasons contribute. Portugal, with a temperate climate of Atlantic and Mediterranean origins, has a long tradition in wine processing and alcohol consumption are a widespread habit. In this traditional good-eating-and-drinking land, it became a deep cultural characteristic. In 2004, World Drink Trends reported that we were the 7th highest World consumers with 9.7 g of pure alcohol, per capita, per year. This was the equivalent of 50 litres of wine, 65 litres of beer and 3.5 litres of distilled drinks per adult per year. More over, 1/5 of the Portuguese population had driven after excessive drinking.

If we accept WHO reports of recent evidence suggesting an association between alcohol abuse induced disorders and HIV/AIDS, it is easy to extrapolate that this may also play a role in viral hepatitis liver injury. Binge drinking, for example, is associated with unprotected, unexpected and multiple partner sex behaviour.

Interestingly, many other features related to viral hepatitis have had a significant change in recent years in Portugal. Hepatitis A, 25 years ago, had high endemicity with an adult prevalence around 90%. Infection was almost universal by around 5-6 years of age. The profound changes in basic hygienic and sanitary conditions of both urban and rural populations make a different reality now, with a seroprevalence of anti-HAV of only 30% in modern adolescents. Although we know that if acquired in adults it may have a fulminant course with 2% mortality, universal vaccination and its inclusion in the National Vaccination Program is not indicated as it's not a proven cost-effective measure. Our policy is checking anti-HAV prior to vaccination, if considered after the age of 15.

Hepatitis B has also changed. 20 years ago the HBsAg prevalence was shown to be 1.25%, making Portugal a low prevalence area. Recently it has been claimed to be less than 1% (0.9%), in a national serological survey (2005), with an anti HBs prevalence of 47%, reflecting the vaccination policy adopted years ago. The overall prevalence of anti-HBc is now 5%. HBV vaccine has been included in the National Vaccination Program since 1993 for adolescents aged 10-13 and for all newborns since the year 2000. The ongoing strategy is vaccination of all newborns and adolescents, with additional recommendation of risk group vaccination as defined by regulatory ministerial documentation. Recent challenges have been raised by the intensive immigration from eastern european countries where HBsAg prevalence ranges from 4% - 10% (eg, Ukrania, Moldavia), just like 30 years ago, when Angola and

Mozambique citizens came back to the mainland. The predominant form of chronic Hepatitis B is eAg negative chronic hepatitis, accounting for more than 80% of the cases, underlining our Mediterranean connections.

Hepatitis C has clearly gained full media and patient attention in recent years. Our estimated anti-HCV prevalence (based on blood donor statistics and many clinical observations) is 1.5%. Interesting cultural and historical facts made a significant contribution to this. Behold

sports, for example. Portuguese people share with Brazilians not only their language and many cultural roots, but also an overriding enthusiasm about soccer. It is the national Portuguese sport,

practiced all over the country with passionate supporters following major Portuguese teams' performances and successes in European champion leagues. After thorough questionnaires and observations, we found several cases of young, otherwise healthy adults who had, as a single risk factor for HCV infection, the sharing of needles or glass reusable syringes by the paramedics of amateur soccer clubs. This occurred whenever polivitamin complexes were intravenously administered (sometimes weekly!) or when anti-inflammatory drugs were repeatedly given intramuscularly. We found that it was a widespread habit, until the late 1980s, to strengthen athletes' performances.

Other sources for percutaneous transmission of HCV, such as contaminated instruments and equipment, should always be kept in mind when we deal with our patients. Many Portuguese, as young people, had prolonged sojourns in Africa and were involved in the colonial war of the late 1960s and early



1970s. Mass vaccination programs, for prophylaxis in Portuguese troops going to Africa, did not use disposable needles, and tattooing was also common, sharing the devices. Also, in the wake of the 1974 Portuguese Revolution, almost 1 million people returned from Africa, and youth protest movements included the adoption of high-risk behaviors such as sporadic (today “forgotten”) intravenous drug use. Furthermore, bizarre medical practices such as intravenous gamma-globulin use for “immune strength” or as “memory inducers,” and intravenous calcium for chronic asthenia and tetany, without proper aseptic use of needles and syringes, may have made a significant contribution to the estimated 150,000 people infected (in a 10-million population).

Until now, 2 major National Consensus Meetings addressed Hepatitis C. Guidelines were published, specific standards and management rules were set, diagnostic and therapeutic procedures were implemented based on those recommendations, supported by the Portuguese Association for the Study of Liver Diseases, Portuguese Society of Gastroenterology, and Ministry of Health Representatives. Those consensus documents were written by large committees, including relevant scientific societies beyond Gastroenterology, including Infectious Diseases, Pedi-

atrics and Internal Medicine. Several TV programs, popular journals and magazines, regularly address Hepatitis C. Also some patients’ organizations (like SOS Hepatitis) bring the general public close to the experts and opinion makers on these topics.

The viability of creating a National Strategy Plan for Prevention and Control of Hepatitis C is now under discussion. This ambitious plan stands on the tripod of quality information, reinforced prevention and cost-effective treatment modalities. It intends to coordinate the efforts of many society groups, including health related authorities, Scientific Societies beyond the conventional Gastro/Hepatology Association, Pharmaceutical Companies, Patient Organizations, and, of course, Politicians and the Media. To underline WDHD 2007, several activities are being designed, and will involve many of the Portuguese opin-

ion leaders on viral hepatitis. Hepatitis C and Hepatitis B will be specifically addressed in the National Congress of Gastroenterology and Hepatology in early June. Several hospitals will promote a social event based on Hepatitis Awareness Day. Pharmaceutical Companies will actively support the logistics for nationwide TV/radio interviews throughout the week. The focus will be a massive information campaign oriented to the general public, bringing together the patients and health providers in an integrated collaboration and cooperation.

May 2007 will make a difference in Portugal. It will improve the level of knowledge about viral hepatitis. Doctors, Public and Health Authorities will be challenged to recognize their own role in the noble task of improving the quality of life of each and every one in any part of world.



Systemic Approach to the Problem of Viral Hepatitis in Slovakia

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For more than 20 years, the problem of viral hepatitis in the Slovak Republic (SR), has been dealt with in a complex, comprehensive manner. A step-by-step development of a system of management and care for liver patients, including those with viral hepatitis, has been successfully coupled with institutional developments by the professional scientific societies of the Slovak Medical Association (SMA) – The Slovak Society of Hepatology and the Slovak Society of Gastroenterology taking the lead, and specialized institutions responsible for setting up and auditing the standards of prevention, diagnostics and therapy. These are designated the national reference centres (NRCs): The NRC for Management and Therapy of Chronic Hepatitis (clinical aspects, therapy) and The NRC for Viral Hepatitis (laboratory diagnostics).

The NRCs are active in developing national guidelines for therapy and diagnostics of viral hepatitis (VH), as well as the principles of necessary ministerial regulations or recommendations. The first such guidelines were issued as a consensus document in 1998 – approved jointly by the relevant scientific professional societies of SMA (hepatology, gastroenterology, and infectious diseases), ministry of health, and the insurance companies. The actual guidelines were published in November (hepatitis B) and December (hepatitis C) 2004. The ministerial regulation on diagnostic, preventive and follow up measures in hepatitis A – D in was developed in 2000 (pending actualization in 2007). Specific standards and procedures of management and care for VH patients stemming from particular risk groups are being developed and implemented since 2005 (intravenous drug users,

prison inmates, health workers, positive blood donors). The consensus manner of approval of the national guidelines and recommendations provides also for full financial coverage of the preventive, diagnostic and therapeutic measures (agreed as being the ‘standard’ ones) by the health insurance companies. They are also used in the health care quality auditing and inspection procedures by the relevant state authorities, and by the authorised health care providers themselves.

Comprehensive care for patients with viral hepatitis is then provided by specialized hepatology centres approved both by the state health policy (the Ministry of Health SR), and all health insurance companies operating in SR (14 centres for the country of about 5.5 million inhabitants, prevalence of HBV about 0,3 – 0,5 %, HCV about 0,5 – 0,7%). The broadest public access to the relevant scientific, health related information is fostered by a free telephone help line (established in 2005), as well as by an appropriate involvement of media (especially TV, radio, popular journals and magazines). In 2006, a nation wide information campaign oriented to the general public was successfully completed. More recently, special attention has also been paid to specific activities – symposia or “meeting the experts” workshops – devoted to the general public, especially in regions with a higher prevalence of VH. Those are to deal with the local problems, including the psychological and health policy issues, brought about by the higher prevalence of VH in those communities. In 2006, an independent organization of patients with viral hepatitis was established to complete the system from the side of the ‘users’.

The system, as described, allows for speedy update and harmonization of nationally implemented standard procedures and practices as detailed in the approved guidelines, regulations, or rec-

ommendations. It will be supplemented by an official national program, as a part of the comprehensive “National program on prevention of chronic liver diseases”, to be launched in the SR in 2007.

Activities Planned in the Slovak Republic on the Occasion of the WDHD 2007

WDHD 2007, devoted to the problems of VH, presents an opportune occasion for further development and refinement of the system of VH management in the SR, especially with regard to its integration into the comprehensive National program. It should further strengthen and deepen the collaboration of the key players in VH management mentioned above, and give the problem necessary prominence and momentum at the public and political level. It should also maintain the high ethical standards set up years ago in the SR concerning the necessary academic – industrial cooperation.

To mark WDHD 2007, the following special activities are planned in the SR, organised in close collaboration and mutual support by the Slovak Societies of Hepatology and Gastroenterology who are taking the lead among other relevant stake holders:

1. Special program on VHs during the annual national congress of hepatology (May 24 – 26, 2007),
2. Monothematic working day of the Slovak Society of Hepatology (December 2007),
3. Publication of the new Ministerial Regulation on “Diagnostic, Preventive and Follow-up Measures in Viral Hepatitis” (estimated May 2007),
4. Launch of the “National Program on Prevention of Chronic Liver Diseases” (second half of 2007).

It is believed that these activities, while building on the progress and good results achieved so far, will make a strong contribution toward further improvement in the quality of the patient – oriented care of VHs in Slovakia.



Jordan and Hepatitis B Virus, Do We Have to Worry?

Dr. Waseem Hamoudi
Gastroenterologist & Hepatologist



Celebrating the WDHD on May 29, 2007 with the title of hepatitis B is important to us because the people of the Middle East generally and Jordan especially have an intermediate to high endemicity of HBV infection.

The majority of countries in the Middle East have intermediate or high endemicity of chronic carriers. Jordan is considered a high endemic area with a prevalence of around 2.6-10%.

Studies showed higher rates in the community based studies than in studies conducted amongst blood donors. In addition, they showed significant differences in carrier rates between villages, ranging from 5.7% in one village to 12.8% in another.

In the Middle East, the majority of infections occur through childhood and perinatal transmission. Toukan et al. suggested that person-to-person non-sexual, non-parental and interfamilial contact was the major mode of transmission between asymptomatic HBV carriers and susceptible individuals.

Therefore, HBV infection and carrier status in Jordan is associated primarily with perinatal transmission, family size, socioeconomic status, and educational status, history of previous blood transfusion, surgery or contact with a jaundiced person.

Evidence supporting the role of large family size in increasing the risk of HBV infection came from the observation of pronounced familial clustering of HBV infection in Jordan. A significant correlation was found between family size and the proportion of HBsAg positive family members. In addition, there was a significantly greater HBsAg prevalence in the lower (14.4%) than the upper (2.4%) socioeconomic classes. Another study showed the prevalence of HBsAg to be 11% and 4% respectively amongst low and high socioeconomic groups?

From the early eighties of the last century, Jordan applied blood screening for HBsAg and disposable needles and syringe use. In addition, close monitoring for adequate sterilization of surgical equipment and instruments are practiced. Universal infant immunization began in 1995 as a combined effort of the Friends of the Liver Patients Society in Jordan and the Ministry of Health. The vaccination coverage of the population has been good overall (90%) for all recommended doses by 1 year of age. In 2001, Jordan introduced vaccination targeted at high-risk groups. It is important to mention that all the vaccination costs, tests and treatment for infected

patients are free of charge and covered completely by the Ministry of Health. Toukan et al. estimated that HBV infection might account for up to 2% of all eventual deaths in the Middle East birth cohort. In addition, there is a higher prevalence of HBsAg in patients with chronic liver disease (54%) than in asymptomatic carriers (10%). In Jordan, intra country differences have been attributed to socioeconomic status.

Our biggest hurdle in combating this disease is informing the public that this disease is not a catastrophe per se, but ignorance and not facing the truth that Jordan is a high endemic country regarding HBV prevalence is the problem. Also teaching methods of prevention, vaccinating the partners and contacts is another problem.

In Jordan people fear this disease, and patients, when is told that they are infected try their best to hide this from relatives and contacts, not changing their way of life, and thus risking infection of more individuals.

In the future, we plan to screen all pregnant women for HBV and include the HBV test in the pre-nuptial tests.



Viral Hepatitis in Latin America

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Hepatitis A (HAV) and hepatitis E (HEV) are both enterally transmitted but there are some differences between them: HAV is mainly transmitted from person to person via the fecal-oral route with a high secondary attack rate; HEV infections are mostly due to ingestion of contaminated water or food. Recently, some studies have proposed that zoonotic food-borne transmission of HEV through the ingestion of undercooked pig liver or intestine may play an important role. Both HAV and HEV cause self-limited infections and are not responsible for chronic hepatitis cases. In Latin America (LA), the burden of disease produced by HAV and HEV infections is very different: HAV prevalence is very high and studies in the '80s have shown anti-HAV seroprevalence greater than 90% in voluntary blood donors in most of countries, while anti-HEV ranges from 1.2 to 8% in studies from Uruguay, Cuba, Argentina, Brazil and Chile. Recent studies have identified a shift from high to moderate endemicity of HAV infection in LA countries, secondary to improvements in sanitary conditions in urban regions. This means that most infections are not occurring in the first years of life but in late childhood, adolescence or in young adults. As a consequence, the incidence of hepatitis A is lower than previously but more cases are now symptomatic and severe. In fact, hepatitis A is the main etiology of fulminant hepatitis in children, causing 64, 71 and 83% of cases in Argentina, Chile and Brazil, respectively. In this setting, with high prevalence of the virus and many susceptible individuals in the population, hepatitis A becomes a public health problem and universal vaccination policies should be implemented.

In contrast, prevalence of anti-HEV in different populations from LA is low, although it is always a bit higher in

people with poor socioeconomic conditions, like the Araucanian indians in Chile (17%) or in rural Amerindians in Venezuela (5.4%). Among 170 hospital employees studied in Campinas, Brazil, prevalence was significantly higher in cleaning service workers (13%) than in professionals (3%). Clinically, HEV has been the etiologic agent in 9% of 93 non A, non B, non C acute hepatitis cases and in 9% of pediatric fulminant hepatitis cases of unknown etiology in Argentina.

Hepatitis B (HBV) has a heterogeneous distribution around the world with areas of high, intermediate or low endemicity. Most of countries in LA are included in the last group (HBsAg seroprevalence lower than 2%). In Central America (CA), the Dominican Republic, Honduras and Haiti have a moderate prevalence (HBsAg rates of 4.1, 3 and 2.7%, respectively). In SA, there is a reservoir of high endemicity in the Amazon Basin (that includes areas from northwestern Brazil, Peru, Colombia and Venezuela) where the prevalence of chronic carriers ranges from 5 to 15% (see separate article by Professor Fonseca concerning HBV in Amazonia). In these rural, aboriginal populations, most of the infections occur in the perinatal period or during childhood. Thus, an impressive anti-HBs rate of 70% has been shown in those younger than 20 years of age in the Amazonia state in Brazil; anti-HBc rate was 66% among children aged 1-4 years in the Upper Orinoco Basin. In contrast, in the other countries, most of the infections occur in young adults who usually do not become chronic carriers. In these low prevalence areas, the main route of infection is sexual transmission. In Argentina, where the HBsAg rate in blood donors has been consistently below 1%, HBV causes approx. 15% of fulminant hepatitis in adults and 18% of chronic viral hepatitis. Predominant HBV genotypes in LA are F and H.

Hepatitis D (HDV) is a defective virus that only replicates in HBV carriers. There are in LA 2 well differentiated areas: in most countries of SA, HDV

prevalence is negligible while in the Amazon Basin anti-HDV is found in 24-34% of asymptomatic HBsAg carriers and the percentage may be much higher in chronic hepatitis B cases. Anti-HCV is present in 0.5-1% of blood donors in LA and hepatitis C (HCV) is the main cause of chronic hepatitis in urban areas of Mexico, Chile, Argentina and Brazil. In Argentina, HCV was the etiology in 82% of 1219 chronic viral hepatitis cases (Sentinel Units Reports, 2000-2002). Among 701 cases at our hospital, median age 43 years, male: female ratio 1.6, a history of intravenous drug use was the main risk factor for infection (35%) but there were differences between genders: IDU was present in 50% of men and in 13% of women while a history of blood transfusion was present in 10% of men and 35% of women. Hepatitis C is also the first etiology among adult patients on the waiting list for liver transplant in our country. Furthermore, a retrospective study found that chronic alcoholism and HCV were the 2 main causes of cirrhosis (approx. 40% each one) among 507 cases of hepatocarcinoma. Prospective studies on the etiology of hepatocarcinoma are lacking in Latin America. Genotype 1 is found in more than 60% of cases in Brazil, Argentina and Venezuela.



Viral Hepatitis and HBV/HCV/HIV in Kenya

Viral hepatitis in Kenya

Kenya is in the high endemicity zone for hepatitis B virus with a carrier rate of >8%. Studies carried out in the early 80s revealed a prevalence of >10% amongst blood donors. However, with the onset of the HIV pandemic in mid 1980s and subsequent changes in the pattern of blood donors, the prevalence of hepatitis B virus has dropped to about 4% as high risk donors are avoided. The prevalence of chronic liver disease due to hepatitis B during the same period, however, has remained constant. Hepatitis C virus is not common in Kenya. A prevalence of <1% among blood donors was reported in the mid 1990s and in early 2007. However, a high prevalence of 21% has been observed among intravenous drug users. Hepatitis A had been primarily a childhood problem, as is true in many developing countries, but recently we started seeing young adults with acute

hepatitis A. Ironically, this is likely due to improvements in our socio-economic status.

Hepatitis E has been reported in Kenya amongst refugees in the northeastern part of the country. It may be the cause of some undiagnosed cases of hepatitis. Hepatitis D (delta) has a prevalence of 40% in hepatitis B cases. Hepatocellular carcinoma is a common problem due mainly to hepatitis B. It presents in very young people and has a very rapid course. As elsewhere there is no successful treatment. The only hope is vaccination against hepatitis B which prevents infection with the virus. This vaccine has been incorporated into the expanded program of immunization. We hope hepatocellular carcinoma prevalence will reduce in the future as a result of this intervention.

– Dr. Fred Okoth



HBV/HCV/HIV coinfection in Kenya

Since the start of the HIV epidemic, cases of viral hepatitis presenting in patients with chronic HIV infection are becoming common. HBV/HIV coinfection is currently the bigger problem with various reports giving prevalence rates from as low as 4% to as high as 40%, depending on the groups included. The impact of this coinfection on either disease is still being studied, although cases of fulminant disease are on the increase. With increasing reports of lamivudine resistance, this has treatment implications leading to use of non first line backbones including drugs like tenofovir and emtricitabine. Unlike in the West, where HCV is the commonest hepatitis virus in chronic HIV disease, it remains quite low in the indigenous Kenyan. Most of the patients seen locally come from neighbouring countries like Somalia, Ethiopia and Rwanda. The commonest genotype in these patients and the few Kenyans is type 4, which has obvious treatment implications. Pegylated interferon alpha and ribavarin are available and have been used in a few of these patients. Final response rates are eagerly awaited.

– Dr. Godfrey Lule



Epidemic proportions of Hepatitis C in a peri-urban community of Karachi, Pakistan

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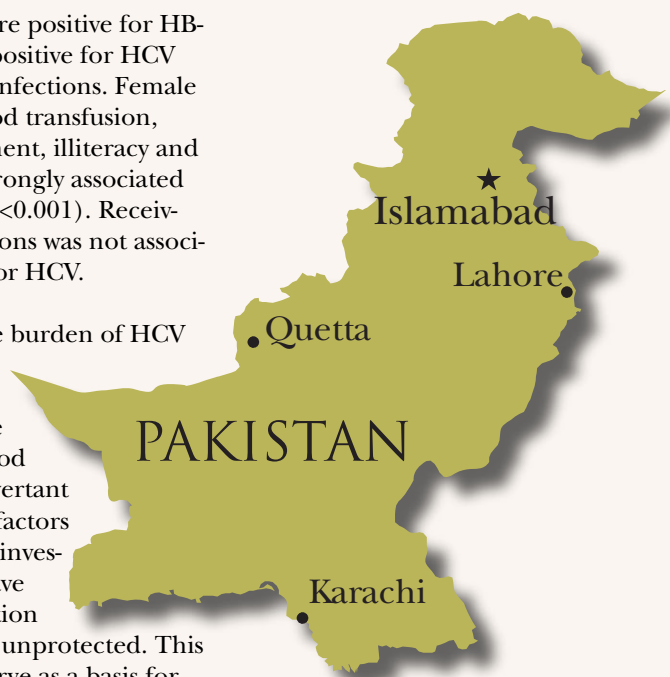
Pakistan is considered an area of intermediate endemicity for hepatitis B virus (HBV) and hepatitis C virus (HCV) infections. However the burden of disease is thought to be much higher in some areas of the country, assuming epidemic proportions. We sought to determine the prevalence of HBV and HCV in a peri-urban area of Karachi, where local experience had suggested prevalence was high, and to identify associated risk factors in this population.

A cross-sectional survey was conducted to cover an estimated 59,000 adults from the selected areas. A systematic random sampling strategy was adopted to include every 5th household. Trained workers obtained written informed consent from 2219 individuals. A pre-tested questionnaire was administered and blood samples were analyzed for HBsAg and HCV antibody using 3rd generation ELISA (ABBOTT).

Preliminary analysis of 1963 subjects found the following: mean age was 30 ± 13 years, 32% were males, average monthly household income was 80 US dollars, almost all belonged to one of the two ethnic groups (Sindhi or Balochi), 65% were illiterate and only 12% had received HBV vac-

cination. 101 (5%) were positive for HBsAg, 447 (23%) were positive for HCV and 21 (1%) for both infections. Female gender, history of blood transfusion, previous dental treatment, illiteracy and over crowding were strongly associated with HCV infection ($p < 0.001$). Receiving therapeutic injections was not associated with either HBV or HCV.

We concluded that the burden of HCV is of epidemic proportions in some areas of Pakistan, driven by the use of unscreened blood transfusions and inadvertant familial transmission, factors which require further investigation. Few adults have received HBV vaccination and thus most remain unprotected. This information should serve as a basis for implementing interventions to reduce transmission of HCV and HBV in this high risk setting.



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Sir Winston Churchill

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- WGO Global Guidelines – the 18 Global Guidelines to date provide a "cascade" of treatment options adapted for local equipment resources and expertise.

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About the World Gastroenterology Organisation

Founded in 1954, WGO is a federation of 99 national and regional gastroenterology societies and associations, representing over 50,000 gastroenterologists worldwide. Its mission is to contribute to the study and progress of gastroenterology on a global scale, to contribute actively to training and education in gastroenterology and gastrointestinal diseases and provide a vital worldwide link for physicians treating digestive diseases.



WGO initiatives include Training Centers around the world (Argentina, Australia, Bolivia, Chile, Egypt, Italy, Morocco, Pakistan, South Africa and Thailand), Train-the-Trainer programmes for physicians, an Outreach Programme which brings endoscopic services and equipment to developing countries, the International Digestive Cancer Alliance and Global Guidelines Library among others. Its web address is www.worldgastroenterology.org

WGO Guidelines Information

The WGO Guidelines Library contains practice guidelines in the six major world languages written with a special sensitivity to global epidemiology and locally available resources. WGO Guidelines go through a rigorous process of authoring, editing and peer review. WGO Guidelines are as evidence based as possible. Topics such as needle stick injury for example do not lend themselves to a conventional literature analysis based on online and offline searches for published randomized controlled trials. Ultimate responsibility and editorial control lies with the WGO Practice Guidelines and Publications Committee.

Each guideline will include references to other relevant guidelines. These are collected, summarised and linked-to by WGO for the benefit of its members. In many instances, there will be more than one guideline. For



example guidelines on Colorectal Cancer treatment are published by WGO, but SIGN also publishes guidelines on this topic as does the New Zealand Guidelines Group and the Canadian Medical Association has a colorectal cancer guideline as well. WGO is, however, the only organisation adopting a global focus.

At the heart of this global focus is WGO's Cascade concept. Whilst a gold standard is always desirable, not all countries have the resources required and in such cases diagnosis and treatment need to be adapted to available resources. All options together form the Cascade.

WGO is delighted to present a new Guideline on Hepatitis B, produced and reviewed by a world team of hepatitis B specialists chaired by the eminent Canadian hepatologist, Professor J Heathcote. The earlier WGO guidelines on HBV vaccination and Acute Viral Hepatitis are now four and five years old. New evidence and new drugs as well as new insights and developments in global epidemiology have prompted WGO to address the issue.

Online Viral Hepatitis Videmecum



WGO's Resident Librarian, Justus Krabshuis, has compiled an annotated listing of the most important articles about viral hepatitis. WGO provides this tool free of charge to the global gastroenterology community to improve the care of viral hepatitis patients and world health. Accessible online at: <http://www.worldgastroenterology.org/wdhd/WDHD/> Stop by the WGO booth, number 2549 in the DDW Exhibition Hall, to meet Justus and discuss research queries and strategies.

WGO is sensitive to resource issues, to HBV endemicity – in the developing world it is endemic in children – in the developed world the focus is on adults.

The new guideline will be published this month with translations in the world major languages. Here is a preview of the key chapters:

- Introduction and definitions
- Methodology, Literature Review, Rationale
- Pathophysiology and Natural History
- Transmission and epidemiology of hepatitis B
- Laboratory diagnosis of hepatitis B
- CHB Treatment of HBeAg negative hepatitis and HBeAg positive hepatitis
- HBV/HCV co-infection
- HBV/HDV co-infection
- HBV/HIV co-infection
- Long term monitoring of CHB
- Screening for HCC
- Hepatitis B vaccination
- Occult hepatitis B and Hepatitis B reactivation
- CHB and Drug therapy
- CHB and drug resistance
- How to reduce the risk of drug resistance
- Guidelines, further reading and websites