Challenges to Care Viral Hepatitis Patients in LA

The Brazilian Society of Hepatology proposal to improve diagnosis and treatment of hepatitis C in Brazil

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Brazilian Society of Hepatology
Diagnosing the problem

• HCV diagnosis and referral to HCV care centers

1. Disease awareness & active screening
2. Burden of disease / HCV epidemiology has not been properly established
3. There is limited testing capacity
4. Difficulties to refer patients (physical barriers to access, number and distribution of reference centers)
5. Limited availability for patients evaluation (viral load, genotype, biopsies / non-invasive evaluation)
6. Medical Societies Guidelines up to date
7. Government guidelines not very restrictive
Awareness and Screening – Brazilian populational survey

**Do you know what hepatitis C is? (or have you heard about it)**

<table>
<thead>
<tr>
<th>City</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>São Paulo</td>
<td>100%</td>
<td>0%</td>
</tr>
<tr>
<td>Rio de Janeiro</td>
<td>100%</td>
<td>0%</td>
</tr>
<tr>
<td>Salvador</td>
<td>100%</td>
<td>0%</td>
</tr>
<tr>
<td>Porto Alegre</td>
<td>100%</td>
<td>0%</td>
</tr>
</tbody>
</table>

**Have you already been tested for hepatitis C?**

<table>
<thead>
<tr>
<th>City</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>São Paulo</td>
<td>62%</td>
<td>38%</td>
</tr>
<tr>
<td>Rio de Janeiro</td>
<td>5%</td>
<td>95%</td>
</tr>
<tr>
<td>Salvador</td>
<td>32%</td>
<td>68%</td>
</tr>
<tr>
<td>Porto Alegre</td>
<td>0%</td>
<td>100%</td>
</tr>
</tbody>
</table>

*Pesquisa Datafolha – SBH, September 2011*
A nation wide cross-sectional survey of prevalence of hepatitis C infection in Brasil

<table>
<thead>
<tr>
<th>Age</th>
<th>Prevalence</th>
<th>CI 95%</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-19 anos</td>
<td>0.75%</td>
<td>(0.53%-0.98%)</td>
</tr>
<tr>
<td>20-69 anos</td>
<td>1.56%</td>
<td>(1.28%-1.91%)</td>
</tr>
<tr>
<td>10-69 anos</td>
<td>1.38%</td>
<td>(1.12%-1.64%)</td>
</tr>
</tbody>
</table>

3,0-2,500,000 anti-HCV positive

Estudo de Prevalência de Base Populacional das Infecções pelos vírus das Hepatites A, B e C nas capitais do Brasil – Ministério da Saúde 2010
Awareness of the disease

• Lack or few programs specially designed for the population
• No target programs for non specialized doctors and primary care
• Midia sensibilization → *no breaking news, no news*
• Difficulties in mobilize HCV infected population
The sorological diagnosis of hepatitis C

• Low cost/technology diagnostics
  – Point of care antibody testing
  – Dried blood spots for HCV RNA testing

• Limited access to the test
  – Restricted to centers of reference for STD/AIDS
  – No/limited active programs of screening

• Limited availability of genotype and viral load determination
Need epidemiologic data on HCV disease burden

- Estimates of disease burden critical for targeting resources for screening/treatment and for monitoring of intervention impact
  - Integrate into existing surveillance
  - Population-based sero-surveys

- Need to identify high risk groups & measure barriers
  - Important for developing screening strategies
  - Understanding barriers to treatment
REFERENCE CENTERS FOR HCV TREATMENT

- Insufficient number of reference centers and specialists to care of HCV patients
- Several small centers in medium size cities with potential for development
- Lack of motivation for general practitioner, gastroenterologist, infectologist
- Treatment with interferon and 1st generation IP is time consuming
- Most centers have no multidisciplinary team or support for secretarial service
- Bureaucracy

PATIENTS WAITING FOR MEDICAL ATTENTION IN A REFERENCE CENTER FOR HEPATITIS C
Centers for Hepatitis C treatment
Proportional distribution in Brazilian states

FONTEs: Casos de hepatites virais: SINAN/SVS/MS; população: estimativas populacionais do Instituto Brasileiro de Geografia e Estatística (IBGE) segundo o Censo (2010). NOTAS: (1) Foram considerados casos confirmados aqueles que apresentaram os testes anti-HCV e HCV-RNA reagentes; (2) casos notificados no SINAN até 31 de dezembro de 2011.
EXECUÇÃO: Departamento de DST, Aids e Hepatites Virais.
Estimated number of patients with viral hepatitis B and C treated in Brazil from 2006-2012

<table>
<thead>
<tr>
<th>Year</th>
<th>Hepatitis B</th>
<th>Hepatitis C</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>-</td>
<td>1,196</td>
<td></td>
</tr>
<tr>
<td>2007</td>
<td>-</td>
<td>6,533</td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td>-</td>
<td>8,626</td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>-</td>
<td>8,224</td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td>9,658</td>
<td>11,628</td>
<td>21,286</td>
</tr>
<tr>
<td>2011</td>
<td>12,915</td>
<td>11,505</td>
<td>24,420</td>
</tr>
<tr>
<td>2012</td>
<td>14,116</td>
<td>12,491</td>
<td>26,606</td>
</tr>
</tbody>
</table>

*Including retreatment and co-infected patients*
Rate of detection of hepatitis C according to age

Focaccia et al., 1998 prevalence anti-HCV city of S. Paulo = 1.42%. Rate increase significantly from 30 years reaching the higher prevalence (3.8%) in patients with 50-60 yo

Number the cases notified to SINAN (Brazilian Ministry of Health)

850 consecutives patients with confirmed diagnosis of HCV infection attending a reference center in the city of São Paulo
Percentual distribution of patients with chronic hepatitis C according to age and histological/clinical stage

850 consecutives patients with confirmed diagnosis of HCV infection attending a reference center in the city of São Paulo (HIV and HBV coinfected patients and patients with alcohol abuse were excluded from the analysis)
Simplify the model of care

- Medical Societies Guidelines (SBH+SBI)
- Expansion of non-invasive disease staging
- $$$
The proposal

Two related projects

PROMOVE-HEP

Awareness and Screening

PROTRAT-HEP C

Accessibility

PROJETO BRASIL

Epidemiological data
The proposal........

In Brasil

Blood transfusion + non disposable nedllles and seringes = ~80% identifiable risk factor.
Disposable nedllles and seringes and Anti-HCV in blood banks ~ 1990
Selecting people born from 1979 (35 yo or more):
   ~90% of HCV infected cases (epidemiological and clinical data)
   increase diagnosis and treatment of non advanced disease
   reduces risk of transmission
Populational screening - cost-effective??
The proposal........
Midia Campaign

IF YOU ARE 35 YEARS OLD OR MORE, ASK YOUR DOCTOR TO PERFORM THE TEST FOR HEPATITIS C. HEPATITIS C IS A CURABLE DISEASE

ALMOST 90% OF PATIENTS WITH HEPATITIS C WERE BORN IN 1979 OR EARLIER
SCREEN YOUR PATIENT FOR HEPATITIS C IN THE NEXT APPOINTMENT

Toghether with OTIMISMO - Prize for the best journalistic report on hepatitis C

HEPATITIS C IS A CURABLE DISEASE
NEW TREATMENT - MORE SAFETY
SHORTER DURATION, HIGHLY EFFECTIVE

SOFOSBUBIR
SIMEPREVIR
DACLATASVIR
Medical Education for Specialists, GI and General Practitioner and primary care through internet, iphone and androids
TREATMENT WITH FIRST GENERATION PI

Pill burden

Drug-Drug Interactions

CYP3A4 Metabolites
THE FUTURE - TREATMENT WITH INTERFERON FREE REGIMEM

EASY TO TREAT – reduced clinical evaluations during treatment and laboratorial and virological assessment increased chances of RVS

SOFA + RBV + PEG Cirrhosis

SOFA + RBV + PEG non cirrhosis

SOFA + LEDISPRAVIR + RBV

great input in HCV treatment
Will GIs take up the call?

- Everyone likes to treat curable diseases
- Not as lucrative as colonoscopies but if it’s easy enough, they might put down the scopes for a little while...

*Access to Medical Education Program, symposium - new treatments of HEP –C in gastroenterology meetings*

**What about PCPs?**

- Not initially
- Increase the knowledge about HCV and diagnosis

*Special training program to increase knowledge and diagnosis of HCV (together with DST-AIDS Department, Ministry of Health)*

*Felden JJ- The Changing Landscape of HCV Treatment*
OPTIMIZING CENTERS FOR DIAGNOSIS AND TREATMENT OF HEPATITIS C IN THE STATE OF PARAÍBA, BRAZIL (PROTRAT –HEPC)
Task shifting: Using **telemedicine** to engage and give support to satellite centers

- Extension for community healthcare outcomes (ECHO) project
- Goal is delivery of specialty medical care to underserved populations
- Uses telehealth technology, best practice protocols and case-based learning to train and support satellite and regional centers
- Take advantage of the federal university educational net (Rede Ruth) to connect centers

FUTURE CENTERS FOR DIAGNOSIS AND TREATMENT OF LIVER DISEASE AND HEPATITIS C IN THE STATE OF PARAÍBA, BRAZIL

<table>
<thead>
<tr>
<th>City</th>
<th>Population</th>
</tr>
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<tbody>
<tr>
<td>João Pessoa</td>
<td>1,155,641</td>
</tr>
<tr>
<td>Campina Grande</td>
<td>580,492</td>
</tr>
<tr>
<td>Patos</td>
<td>226,892</td>
</tr>
</tbody>
</table>

BRASIL NETWORK FOR HEPC DATA COLLECTION
Hepatitis C sorology and non invasive diagnosis – Optimizing resources
<table>
<thead>
<tr>
<th>Activity</th>
<th>Date</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rising Fundus</td>
<td>October 2013- June 2014</td>
<td>ongoing</td>
</tr>
<tr>
<td>Brazilian Society Guideline atualization</td>
<td>March 2014</td>
<td>✓ ok</td>
</tr>
<tr>
<td>Medical education program - record</td>
<td>March/April 2014</td>
<td>✓ ok</td>
</tr>
<tr>
<td>Medical education program- available on site</td>
<td>April/June 2014</td>
<td>-</td>
</tr>
<tr>
<td>Primary care program – record (emphasis on diagnosis)</td>
<td>March/April</td>
<td>ongoing</td>
</tr>
<tr>
<td>Primary care program – available on CD</td>
<td>May 2014</td>
<td>-</td>
</tr>
<tr>
<td>Program and new site specially for general public consultation</td>
<td>March /April 2014</td>
<td>delayed</td>
</tr>
<tr>
<td>Definition of new centers for diagnostic and treatment in Northeast region</td>
<td>March 2014</td>
<td>ongoing</td>
</tr>
<tr>
<td>Rental the first set of machines and training first doctors for Fscan examination</td>
<td>March/Apr 2014</td>
<td>ongoing</td>
</tr>
<tr>
<td>Instalattion of first centers in NE States with local authorities</td>
<td>April/May</td>
<td>-</td>
</tr>
<tr>
<td>Installation of remaining centers</td>
<td>May/June</td>
<td>-</td>
</tr>
<tr>
<td>Start of Brazilian Society plataform and universitary net work with weekly meetings and collecting data from centers</td>
<td>May 2014</td>
<td>-</td>
</tr>
<tr>
<td>Northeast Simposium of Brazilian Society of Hepatology in João Pessoa</td>
<td>September 2014</td>
<td>-</td>
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