

Hepatitis 2009: a return to the basics

Arizona Department Of Health Services
Office of HIV, STDs and Hepatitis Services
Adult Hepatitis Program

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This is a no-charts, no-numbers presentation!

- The reality is that we too often focus on numbers in public health; when we focus on numbers we lose sight of the individual and the real fact that Hepatitis is a hot current issue in Arizona, the US and the world today!
- If you want a numbers-based statistic you can remember that Hepatitis C makes HIV look minimal in the scope of global disease numbers

Your Liver

- Your largest internal organ
- Weighs about 3lbs (think a bag of grocery store rice)
- About the size of a football
- Able to regenerate its own tissue
- 1.5 quarts of blood flow through it every minute
- Filters blood to the heart

Liver Functions

- The liver is responsible for over 500 functions
- Aids digestion (bile)
- Stores vitamins and nutrients
- Produces clotting factors
- Detoxifies harmful substances from the body

The **A,B,C's** (& D, E and F)

- **Hepatitis A (HAV)**
- **Hepatitis B (HBV)**
- **Hepatitis C (HCV)**

Hepatitis A

- Can be fatal to immune-compromised individuals and individuals with Hep C
- **Is a Sexually Transmitted Disease!**
 - Transmitted oral/ fecal contact
 - Anal/oral sex (rimming)
- Ingesting contaminated food/water
- Household contact
 - Especially infants and children
 - Commonly shared house hold items

Hepatitis A Treatment

- Fluids (and rest)
- Immune globulin *can* lessen symptoms
- HAV Vaccine (Monovalent)
 - 2 injections six months apart
 - Age two or older (preschool)
 - Don't give to pregnant women

Hepatitis B

- Chronic in 15% of cases
- Sexually Transmitted
- Blood borne
 - Most body fluids
 - Sharing needles/paraphernalia
 - Needle stick accidents
 - Sharing personal items
 - Mother to child (at birth)

Hepatitis B Treatment

- **HBV Vaccine**

- 3 injections within 6 months (monovalent)

Immunomodulators

Intron A (interferon-alfa 2a)

Pegasys (pegylated interferon-alfa 2b)

Oral Antivirals

Epivir-HBV (lamivudine)

Hepsera (adefovir)

Baraclude (entecavir)

Tyzeka (telbivudine)

If in doubt: vaccinate!

- The combo vaccines have a synergistic effect and better sero-protection-(¹)
- Use accelerated dosing for better compliance!

**“Day 1”- “Day 7”- “Day 21- 30”
& booster at 12 months if needed ***

(¹) Conner, Blatter, Zou, Trafa-Rapid and Sustained Immune Response Against Hepatitis A and B Achieved With Combined Vaccine Using An Accelerated Administration Schedule –Journal of Travel Med. 2007

*Subject to FDA change

Learn the Mantra:

One is good.

Two is Great !!

Three is Fantastic!!!

Hepatitis C

- Approximately 2% of US population infected
- ~100,000 in Arizona
- 24% of inmates in AZ Corrections units are HCV positive
- Of those with Hep C 80% have chronic infection and 1/5 will progress to cirrhosis
- Median time to cirrhosis ~20 yrs
- Over 10,000 die per year in US
- Hep C is the leading cause of liver transplants

Hepatitis C Transmission

- Sharing drug inhalation equipment
 - Straws, rolled bills
- Sharing needles and drug preparation items
- Improperly sterilized medical equipment
- Blood products before 1992
- Sexual Transmission (0-3%)
- Mother to child (5%)
- Healthcare workers (needle sticks etc.) (~2%)

Transmission continued

- Body piercing
- Tattoos (by Non-professional/Non-licensed artists)
- Shared personal hygiene items
 - Razors-tooth brushes

10% of cases do not have
an identified method of transmission.

HCV Prevention?

Think Risk and Harm Reduction

- Injection drug equipment
 - Do not share any drug paraphernalia (syringes, syringe bodies, needles, cookers, cotton, water, etc.)
 - Do not share coke/crank straws, bills, spoons
 - Do not share crack pipes
- Use care with tattoos/body piercing
- Limit sexual partners- practice safer sex
- NEEDLE/SYRINGE EXCHANGE

Less is more in harm reduction!

If it's wet and it's not yours ...

- Don't touch it!
- Recent new studies have shown that Hep C virus is present in nasal mucus

Let's talk about inhaled drugs for a minute...

More Prevention

- Test pregnant women
- Healthcare workers follow “universal precautions”
- Do not share personal hygiene items
- Do not donate blood, sperm, organs if HCV positive

HCV does not transmit by:

- Hugging
- Coughing/sneezing
- Food/water
- Eating utensils
- Breastfeeding (but if the babies teeth are there stop breast feeding)
- Casual contact

HCV Lifecycle

- Can get positive antibody response for testing in about two weeks (incubation 2-26 weeks)
- Can live outside the body for a week
- Single strand RNA virus
- Infects liver cells

Remember, there is no vaccine for HCV!

Diagnostic Tests

- Anti body tests
 - ELISA II
 - Detects antibodies
 - RIBA
 - Confirmatory test

Viral Load

- Measures the amount of virus per milliliter of blood
- Qualitative (HCV RNA, PCR QL)
 - Is virus present
- Quantitative (HCV RNA, PCR #)
 - Amount of virus present

How viral load is used

- To confirm active HCV infection
- To confirm treatment response

In Hep C viral load doesn't necessarily correlate with disease progression!

Other tests

- Genotype (1-6)
 - Genotype #1 is most common in US
- ALT/AST
 - Indicates something may be going on in liver
- Liver Biopsy
 - “Stages” disease progression

Hepatitis C Symptoms

- Fatigue
- Liver Pain
- Flu-like symptoms
- Loss of appetite
- Headaches
- “Brain Fog”
- Gastro difficulty

Simple things make a huge difference...

- **STOP** Drinking all ALCOHOL: none, zip, zero: **zilch!**
- Drink water: lots of water
- Eat right; avoid fatty foods-red meats and focus on fresh veggies
- Exercise, lose weight and build muscle mass

Treatment

- Combination pegylated interferon and ribavirin
 - Interferon (weekly self injection)
 - Ribavirin (daily pills)

Treatment Decisions

- Healthy
- Active HCV
- Elevated ALTs
- Compensated liver disease

Best Responders

- Younger (under 45 responds better)
- Female
- Low body fat
- Low viral load
- Minimal liver damage
- Genotype 2 or 3

Let's talk about side effects...

Common Side Effects

- Fatigue
- Muscle/joint pain
- Nausea
- Headaches
- Anxiety
- Depression
- Dry skin/rashes
- Anemia
- Hair loss
- Rigor

Who should not be treated (guidelines)

- Undetectable viral load
- No liver damage
- Decompensated cirrhosis
- Autoimmune disorders
- Bone marrow suppression
- Kidney disease
- Coronary disease
- Pregnant, breastfeeding women

Staying Healthy

Prevent progression!

- No Alcohol
- Hepatitis A and B vaccine
- See your doctor regularly
- Healthy diet
- Exercise
- Use care with medication
- Use care with vitamins and herbs

ADHS Hepatitis Program Goal

To efficiently target high-risk populations through integration of existing services including: clinics and/or programs that deal with HIV and STDs, correctional facilities, substance abuse treatment organizations, and at-risk programs.

The Hepatitis Program has a focus on:

- Health Education
- Vaccinations

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Resources

- American Liver Foundation
 - www.liverfoundation.org
- Hepatitis C Support Project
 - www.hcvadvocate.org
- Centers for Disease Control and Prevention
 - www.cdc.gov

Questions?