

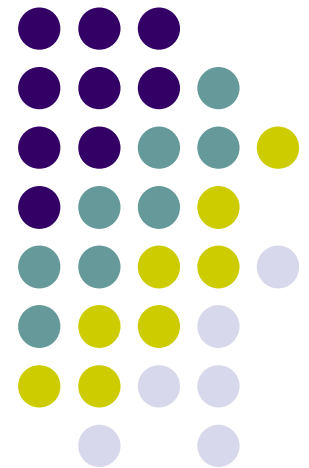
HEPATITIS B

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Outline of Presentation



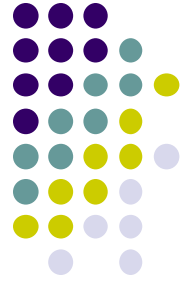
- Welcome
- Hepatitis - What is it?
 - What is the clinical presentation of Hepatitis B and how serious is it?
 - How is it transmitted?
 - How is it prevented?
- Preventing Hepatitis B in the workplace
- Preventing Hepatitis B in Saskatchewan – the routine childhood immunization program
- Questions

Hepatitis



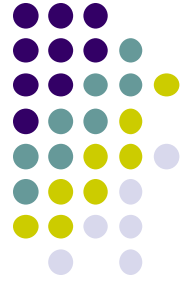
- What is Hepatitis?
 - “Hepa” – Liver
 - “itis” – inflammation
- It is a viral infection of the liver
 - There are several different types – A, B, C, D, E, F

Hepatitis B in Canada



- Incidence of HBV in Canada
 - 2 cases per 100,000 or 650 case reported (PHAC, 2006)
 - > in males than females
 - Age 30 – 39
 - Probably many more unreported cases
 - Varies from region to region
 - Declining over the years because of vaccination programs

Hepatitis B in Saskatchewan



- In 2011*:
 - 12 lab-confirmed cases of Hepatitis B
 - 633 lab-confirmed cases of Hepatitis C
 - 174 lab-confirmed cases of HIV

*These are preliminary statistics from the Ministry of Health and have not been finalized for 2011.

Clinical Presentation



- Incubation Period for Hepatitis B
 - Hepatitis B – 45 to 180 days (60 – 90 average)

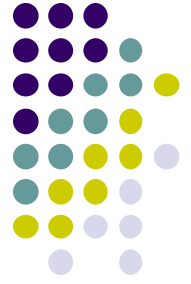
- Incubation Period for other types of Hepatitis
 - Hepatitis A – 15 to 50 days (30 average)
 - Hepatitis C – 14 to 180 days (42 – 63 average)

Hepatitis B - Clinical Presentation



- 50 % of adults infected with Hepatitis B will have no symptoms
 - The other 50 % may experience fever, loss of appetite, abdominal pain, nausea, vomiting, skin rash or jaundice
- 90% of children infected will have no symptoms
- Symptoms may last weeks or months

How Serious is Hepatitis B?



- 90% of healthy adults infected with Hepatitis B will recover and be rid of virus within 6 months.
- 10% of those infected with Hepatitis B become chronic carriers and are considered infectious
 - May develop liver disease (hepatis cirrhosis)
 - May develop liver cancer
 - 1% - 2% case fatality rate

How is Hepatitis B Spread?



- Hepatitis B is spread through exposure to the blood and/or body fluids (i.e. vaginal secretions, semen, serous fluids) of an individual with infectious hepatitis B
 - 50 – 100 percent more infectious than HIV
- What makes the Hepatitis virus types different is how they are spread from one person to another
 - Hepatitis A – fecal/oral route
 - Hepatitis C – primarily blood of those infected

How is Hepatitis B prevented?



- Immunization
 - Number of doses of vaccine required varies but usually 3 doses for health care workers
- Practice safe sex and avoid unprotected sexual contact with an infected person
- Do not share needles (eg. tattoos, piercings, injection drug use)
- Prevent needle stick injuries at work
- Prevent transmission from infected mother to newborn baby with passive and active immunization

How is Hepatitis A prevented?



- Immunization
 - Especially travellers - Usually 2 doses of vaccine but different schedules depending on the vaccine product
 - Routine program in Saskatchewan for at-risk communities
- If you can't cook it, boil it or peel it, don't eat it
- Hand hygiene



Hazard in the Workplace

- Hepatitis B is an important Occupational Hazard for Health Care Workers
 - 65 % of people infected with Hepatitis B virus don't know they are infected
 - (75% for Hepatitis C and 25% for HIV)
 - Risk of transmission after exposure can be up to 30%
 - (0.3% for HIV and 10% for Hepatitis C)

(CCOHS, Jan 2005)

Risks to Occupational Groups



Percentage of people having evidence of past hepatitis B infection

- High (over 20%) → Pathologists, biochemistry and hematology laboratory personnel, dialysis staff
- Intermediate (7-20%) → Hospital nurses, laboratory personnel other than those in high risk groups, staff of institutions for the developmentally handicapped, dentists
- Low (less than 7%) → Administrative hospital staff, medical and dental students, healthy adults

(CCOHS, Feb 2011)

Hazard in the Workplace



- Direct contact with infected blood
 - Skin punctures with lancets, needles, scalpels, other sharps
 - Splashes to skin with scratches, abrasions, burns or even minor rashes
 - Splashes to mucous membranes in mouth, nose, or eyes
 - Bites, saliva but lower concentrations
 - Hand contact with blood contaminated surfaces (i.e. blood tubes, lab or operating room instruments, etc., transfer to non-intact skin or mucous membranes)
 - Hepatitis B virus remains stable in dried blood for up to 7 days

Hazard in the Workplace



- These have not been implicated in transmission unless contaminated with visible blood:
 - Feces, nasal secretions, sputum, sweat, tears, urine and vomit
- Not spread through:
 - Sneezing, coughing, hand holding, hugging, breastfeeding, sharing eating utensils, water or food

Preventing Hepatitis B in the Workplace



Infection Control Guidelines - 1st line of defense to protect workers

- Routine practices
 - Engineering controls: Equipment to isolate or control the hazard
 - sharps containers, biological cabinets in labs
 - Safety engineered needles
 - Safe work practices: Procedures to
 - safely collect and dispose of fluids or tissues
 - follow in case of spills, or exposure to BBF
 - Dispose of needles or sharp objects, etc.
 - Personal protective equipment
 - Gloves, mask, eye protection, aprons or impervious gowns
- Only effective if you follow

Preventing Hepatitis B in the Workplace



Hepatitis B Vaccine

- Occupational infections have decreased by 95% since vaccine became available in 1982
- Usually 1 series of 3 doses required
 - Test for antibodies post series
 - ≥ 10 IU/ml to be considered immune
 - Once you have adequate immunity level, considered immune for life
- Small percentage of people require a 2nd series
- 5 – 15 % will be non-responders
 - Require counselling
 - Require HBIG for exposures
 - May be candidates for ID Hep B (not standard)

Preventing Hepatitis B in the Workplace



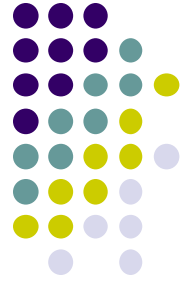
- Side effects of Hepatitis B vaccines
 - Soreness, redness, swelling, pain at injection site
 - Headache, dizziness;
 - Low grade fever;
 - Joint pain, body aches;
 - Tired feeling; or
 - Nausea, vomiting, stomach pain, constipation, diarrhea
 - Allergic reaction (contains yeast &/or thimerosal)

Preventing Hepatitis B in Saskatchewan



- Routine Childhood Immunization
 - 1995 - Saskatchewan introduced routine program
 - Grade 6 students
 - Individuals born from 1984 and later
- Others who are eligible (high-risk program)
 - Infants born to hepatitis B and/or hepatitis C positive Moms
 - Children whose families come from areas of the world with high rates of hepatitis B
 - Pre-dialysis patients and dialysis patients
 - People with chronic liver disease
 - Exposure to blood and body fluids – Health Care Workers
 - Others (e.g. group homes, etc.)

Success Story



- Since 1997 the average number of new cases of Hepatitis B reported per year in Canada has decreased from 20,000 to about 1,000 case per year



References:

- Canadian Immunization Guide
- Control of Communicable Disease Manual
- Canadian Pediatric Society
- Canadian Centre for Occupational Health and Safety
http://www.ccohs.ca/oshanswers/diseases/hepatitis_b.html
- World Health Organization
<http://www.who.int/mediacentre/factsheets/fs204/en/>
- http://www.hbvadvocate.org/hepatitis/factsheets_pdf/Occupational%20Risk.pdf
- http://www.hepb.org/professionals/vaccine_non-responders.htm
- Saskatchewan Disease Control Lab
<http://www.health.gov.sk.ca/adx.aspx/adxGetMedia.aspx?DocID=6bf1752f-0fe0-4b6a-aad5-7da53f5db5b1&MediaID=5800&Filename=sdcl-newsletter-feb2012.pdf&l=English>

Questions?

