AIDS IN CHILDREN

BY

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INTRODUCTION

- AIDS is the end stage of symptomatic HIV infection.

- HIV infection progresses more rapidly in children than in adults.

- A long latency period bet. the time of infection and the development of clinical symptoms.
ETIOLOGY

THE VIRUS:
- HIV 1 & 2 are members of the genus lentivirus, family retroviridae.
- Both cause AIDS.
- Each virus contains 2 copies of the RNA genome.
ETIOLOGY CONT...

- THE VIRUS USE THE ENZYME REVERSE TRANSCRIPTASE TO REVERSE THE USUAL FLOW OF GENETIC INFORMATION.
MODES OF INFECTION

1. BLOOD OR BLOOD PRODUCTS.

2. VERTICAL TRANSMISSION:
   ** THE COMMONST.
   → INTRAUTERINE  40%
   → INTRAPARTUM    60%
   → BREAST FEEDING 14%
3. I V (Drugs).

4. SEXUAL CONTACT: RARE.

5. URINE OR FECES: FEW CASES.

NOT THROUGH SALIVA.
RISK FACTORS

- **GENERAL:**
  1. GENDER.
  2. UNDERDEVELOPED C.
  3. LACK OF EDUCATION.
  4. LOW ECONOMIC STATE.
  5. INTRAVENOUS DRUG

- **VERTICAL TRANS:**
  6. MICRONUTRIENT DEFICIENCY IN MOTHER.
  7. PLACENTAL ABRUPTION.
  8. IUGR OR PRETERM.
  9. PROM.
  10. VAGINAL DELIVERY.
  11. EPISIOTOMY.
PATHOGENESIS

- C M & humoral immunity occur early.

- Gradual deterioration of the immune system i.e. ↓ of CD4 cells
CLINICAL MANIFESTATIONS

- Asymptomatic phase.

- After vertical transmission there are 3 distinct patterns of the disease:
  
  1. Rapidly progressing 15%
  2. Slowly "" 80%
  3. Long term survivors <5%
INFANTS:

- Failure to thrive.
- Hepatosplenomegaly.
- Lymphadenopathy.
- Chronic diarrhea.
- Oral thrush.
- Interstitial pneumonia.
CHILDREN:

- FEVER.
- DERMATITIS.
- RECURRENT BACTERIAL INFECTIONS.
- "H S V"
- DISSEMINATED MYCOBACTERIAL INFECTIONS.
- "VARICELLA."
- Candidiasis.
- PCP
- LIP
- ↑↑ Parotid.
- Hepatitis.
- Neurologic deterioration.
INFECTIONS

1. RECURRENT BACTERIAL INFECTIONS:

- **ORGANISMS:**
  
  STAPH, SALMONELLA, PNEUMOCOCCUS, ENTEROCOCCUS, H.INFLUENZAE & Ps. AERUGINOSA.
GET:
- SEPSIS.
- BACTEREMIA.
- PNEUMONIA.
- MENINGITIS.
- U T I
- ABSCESSES.
- BONE INF.
- OTITIS MEDIA.
- SINUSITIS
- SKIN INFE.
2. OPPORTUNISTIC INFECTIONS:
LESS COMMON IN CHILDREN.

• A) PNEUMOCYSTIS CARNII P.:

→ THE MOST COMMON.
→ ACUTE
→ FEVER
→ DYSPNEA
→ ↑↑R R
→ HYPOXEMIA
→ THERAPY: ♦ SEPTRIN + STERIODS
   ♦ PENTAMIDINE
X-ray of PCP
C) ORAL CANDIDIASIS:

@ THE MOST COMMON FUNGAL INFECTION.

@ R/ → NYSTATIN
   → CLOTRIMAZOLE TROCHES
   → AMPHOTERICIN PO

@ MAY INVOLVE OESOPHAGUS.
   → ORAL FLUCONAZOLE
OPPOR. INF. CON...

- **d) PARASITIC INFECTIONS:**
  - GIARDIASIS
  - INT. CRYPTOSPORIDIOSIS.
  - SEVERE CHRONIC DIARRHEA.
  - MALNUTRITION.
E) VIRAL INFECTIONS:

HERPES SIMPLEX:  -→ RECURRENT GING. STOM.
                -→ CUT. DISSEMINATION.

V ZV :  -→ VISCERAL DISSEMINATION
       -→ HERPES ZOSTER.
       -→ LUNGS
1. **CNS**:

** More common than in adults.

** Most common presentation is:

progressive encephalopathy.

** May get → seizure.

→ focal signs.

** Lymphoma.

** Toxoplasmosis.

** Cryptococcal meningitis.
2. RESP. SYS. :

& RECURRENT O. M. AND SINUSITIS.

& MASTOIDITIS.

& L I P :  → 25% OF PTS
     → CHRONIC
     → CLUBBING
• & PNEUMONIA : = MANY ORGANISMS.
  = RESP. FAILURE.
  = DEATH.

• & BRONCHIECTASIS :
  RARE

• & T B : = MORE FREQUENT.
  = ALSO EXTRAPULMONARY.
3. CVS:

- SUBCLINICAL ABNOR. ARE COMMON.

- DILATED CARDIOMYOPATHY.

- C H F (5%)
4. GI & HEPATOBIILIARY TRACT:

# ORAL: → Hairy Leukoplakia.
    → Ulcerations.
    → Candida.

# Esophageal Ulcerations.

# A I D Enteropathy:
    → Syndrome of Malabsorption.
    → Villous Atrophy.
WASTING SYNDROME:
- LOSS OF > 10% WT.
- BAD PROGNOSIS.

COMMON SYMPTOMS:
- DIARRHEA
- ABD. PAIN
- DYSPHAGIA
- FTT
# Chronic hepatitis.

# Cholecystitis.

# Pancreatitis.
5. RENAL DIS. :

$ NEPHROPATHY

$ NEPHROTIC SYND. :  THE MOST COMMON.

$ HEMATURIA

$ POLYURIA OR OLIGURIA.
7. HEMATOLOGIC & MALIGNANT DIS. :

@ ANAEMIA : UP TO 70%

@ LEUKOPENIA & NEUTROPENIA

@ THROMBOCYTOPENIA
  → IN20%
● @ CLOTTING FACTORS DEF.

● @ MALIGNANCY:
  → RARE
  → CNS LYMPHOMA.
  → NON-H. LYMPHOMA.
  → LEIOMYOSARCOMA.
  → KAPOSI SARCOMA. ^HHV8
  ^UNCOMMON
DIAGNOSIS

♣ Ab TEST  (TILL 18 mo. AGE.)

♣ TEST FOR HIV Abs (EIA)
  CONFIRMED BY :  → WESTERN BLOT.
  → I F ASSAY.
  ( FOR >18 mo. AGE.)
♦ VIRAL DIAGNOSTIC TESTING:
   * DNA PCR
   * RNA PCR
   * HIV CULTURE
   * P24 Ag ASSAY (ICD-P24)

♦ CD4 & CD8 COUNT.
♦ CBC
TREATMENT

- Combinations of “H A A R T” which include at least 3 drugs, should be the initial R/

- Therapy only suppresses the virus & changes the course of the disease to a chronic process.
DECISIONS ABOUT THERAPY ARE BASED ON:
- VIRAL LOAD.
- CD4 COUNT.
- CLINICAL CONDITION.

CALLED ANTI-RETROVIRAL THERAPY.
THE DRUGS

1. NRTIs (Nucleoside Reverse Transcriptase Inhibitors):

- ZIDOVUDINE (ZDV)
- LAMIVUDINE (3TC)
- DIDANOSINE (ddI)
- STAVUDINE (d4T)
- DIDEOXYCYTIDINE (ddC)
- ABACAVIR (ABC)
- EMTRICITABINE
- TENOFOVIR
- VIDEXEC
- ZENT XR
2..NNRTIs (Non-nucleoside Reverse Transcriptase Inhibitors):

- DELAVIRDINE (DLV)
- NEVIRAPINE (NVP)
- EFAVIRENZ
3. P Is (Protease Inhibitors):

- INDINAVIR (IDV)
- AMPRENAVIR (APV)
- RITONAVIR (RTV)
- LOPINAVIR (LPV)
- NELFINAVIR
- SAQUINAVIR.
- ATAZANAVIR
- FOSAMPRENAVIR.
- TIPRANAVIR
- DARUNAVIR.
WHO = SHOULD BE TREATED ARE THOSE WITH:
!! SYMPTOMS.
!! OR EVIDENCE OF IMMUNE DYS.

INCREASE DOSING INTERVAL OF DRUGS FOR NEWBORNS & PREM.
SUPPORTIVE CARE

- MULTIDISCIPLINARY TEAM APPROACH.
- NUTRITION.
- **BF**: IN DEVELOPING C. HIV INFECTED MOTHERS SHOULD BF THEIR INFANTS. (WHO)
- ATTENTION TO ORAL HYGIENE.
- REGULAR EVALUATION OF G & D + TEETH.
SUPPOR. CARE CON......

- IMMUNIZATIONS:
  - ALL STANDARD VACCINES.
  - DO NOT GIVE OPV & LIVE BACT. VS.
  - """""" MMR & VARICELLA TO SEVERLY IMMUNOCOMPROMIZED PTs
SUPPOR. CARE CONT.....

- PAIN MANAGEMENT.
- ADVICE TO PARENTS i.e Counseling.
- SUPPORT.
PREVENTION

- **ZDV CHEMOPROPHYLAXIS:**
  - **DURING PREGNANCY.**
  - **DELIVERY.**
  - **NEWBORN.**

- **NEVIRAPINE (oral):**
  - **ONCE IN LABOUR.**
  - **” TO INFANT (IST 72 Hs)**

  - **HAART regimen for their own health during pregnancy.**
● Potential benefit of CS in reducing the risk for Vertical transmission.

● HIV Ab TESTING:
  → ALL PREGNANT.
  → DURING LABOR.
  → INST DAY OF LIFE.
CONDOMS TO SEXUALLY ACTIVE ADOLESCENTS.

NO MULTIPLE PARTNERS.

NO ILLICIT DRUGS.

CIRCUMCISION REDUCE THE RISK OF HIV INFECTION.

CDC considers promoting circumcision
August 2009
ROLE OF ISLAMIC RULES IS THE CORE IN THIS ISSUE OF PREVENTION
VACCINES

- **SUBUNIT VACCINES**:  
  - **FIRST TYPE**: CALLED COMPONENT V.  
    • GENETIC ENGINEERING.
  
  - **2ND TYPE**: CALLED AVIRUS-LIKE PARTICLE.
VACCINES CONT....

* **RECOMBINANT VECTOR VACCINES**:  
  ➔ VIRUSES OR BACTERIA USED AS CARRIERS.

* **DNA VACCINES**:  
  ➔ LAB MADE HIV DNA IS INTRODUSED INTO THE BODY.
THANK YOU