When do we start HAART ?

Too little too late!

Too much too early!

Dr Kimesh Naidoo
Principal Specialist – King Edward VIII Hospital
02/Oct/2009

8 Year old boy ST brought by granny

- History : *3 day history of cough and fever*
- *Vomited X 1*
- *In Grade 2 – off from school for 2 days*

- *Previous admissions : twice in past year*
- *With a similar problem to the current one – stayed in hospital each time for 6 days*
- *usually ST taken to GP – gets better > 10 times*
- *Live in a 3 roomed house – income obtained from granny's pension and mum works as a cleaner in local shop*

Further History

- There is 2 other family members who completed TB treatment in the past year
- Granny is unaware of HIV status or any chronic medications the child is on

- Mum is back at work – well – she has a 8 week old baby

Clinical examination

- Child is in respiratory distress RR=60
- Temp = 38,7
- O2 saturations are in 2L oxygen – 97%
- off Oxygen = 86%
- Tachycardic
- Numerous hyper-pigmented skin lesions
- Heart sounds loud especially 2nd HS
- Crackles R post base
- Bronchial breathing R mid and lower zone + Dull to percussion

Further examination :

- Shorter than classmates – ok in school
- Weight just above 3rd centile – no oedema
- Not particularly sickly
- Past 3 months – stopped playing in the street
- Generalised lymphadenopathy –not mattered
- Splenomegaly 5 cm and hepatomegaly 5 cm and does not like deep palpation of RUQ
- Clubbing present
- Mild pallor – ward HB=8

Questions ?

1.What is your diagnosis ?

Diagnosis : Acute R consoildation on chronic Lung disease in a WHO stage 3 HIV classified child with TB contacts

2.Why does he warrant a HIV test?

Clinical WHO stage 3 influences choice of drugs – ?PCP needs Bactrim / influences choice/dose and duration of Antibiotics / prognosis / HAART

3.Granny refuses consent what should you do?

Phone the mother

4. After treatment with Soluble Penicillin and Gentamycin for 48hrs(over the weekend) Temp settling but still distressed - What are your concerns ?

Could be wrong diagnosis

?TB

?Staph Aureus cover insufficient

?PCP/

Cardiac failure – cor pulmonale – pulm hypertension – Chronic lung – due to repeated chest infections – Bronchiectasis /

5. What is optimal management

- Sputa – induced /BAL + Blood cultures - mccs /AFB
- HIV rapid – elisa + CD4 and Viral load
- Cardiac echo – FS + EF – start antifailure treatment
- Interview Mum – PMTCT – check new baby , mom's CD4 count+ Bactrim and TB screening
- Father and or treatment supported to be sourced
- Start adherance training

Actual course

After weekend ST discharged on Augmentin

- cardiac failure missed
- No HIV test performed – no consent
- Follow up - 2 weeks
- Mantoux Non reactive / one sputa – negative

Child taken to GP – oral meds – that evening brought back

Correct diagnosis made – anti cardiac failure treatment started deteriorated day 4 – needed Dopamine

Echo : Cor Pulmonale poor myocardial function low FS and EF

Started on HAART day 32 in ward

Weaned of Oxygen – home for 3 weeks

Back again – intractable cardiac failure – not responding to dobutamine and dopamine this time

Demised 9 days after this admission

Questions and points ?

1.Could we have changed the course ?

No ….? YES

2.Are they conditions of end –organ damage that HAART will not alter

- Cor Pulmonale
- HIVAN
- Non progressive CNS pathology
- chronic liver

3.What public health measures could of changed the course of this case

- Opt out screening
- 6 week routine PCR
- early treatment and
- effective IMCI at GP /clinic

4.Are we missing any other issues in this case ?

- The new Baby -PCR
- mum's HIV status and CD4

Course

1. Mum HIV positive –her CD4 – 208
2. Mum's CXR/sputa done on mum – okay – brought in sister for treatment supporter
3. Baby was symptomatic – axillary lymph nodes and a bad perineal rash –candida and oral candida /no CD4 done as waste of time
4. Baby to start on HAART – excluding TB

KZN Paediatric Antiretroviral Programme

Health District	Number of Children on ART March 2005	Number of Children on ART July 2007	Number of Children on ART JUNE 2009
Umzinyathi(Tugela Ferry)	247	796	1326
Amajuba(Newcastle)	148	363	1198
Uthukela(Ladysmith)	265	765	1089
Sisonke(Kokstad)	106	325	934
Umgungundlovu(PMB)	843	1,871	3843
Umkhanyakude(Kosi Bay)	348	1,022	2717
Zululand(Vryheid)	127	431	1288
Uthungulu(Ngwelezana)	329	891	2515
Ugu(Port Shepstone)	127	633	1853
iLlembe(Stanger)	207	797	1914
Ethekwini-Durban	542	2,322	6218
Province Total	**3 322**	**10 216**	**24 895**

Paediatric ART Totals 2008 - 2009

Month	Total Children	Total Adult and Children	% Children	Monthly increase
June 2008	14 710	154 611	9,5	655
June 2009	24 895	260 421	9.55	848

CHIVA south africa

KwaZulu-Natal Health Districts

Mozambique
Swaziland
Mpumalanga
Free State
Lesotho
Eastern Cape
Indian Ocean

Amajuba
Zululand
Umkhanyakude
Umzinyathi
Uthukela
Uthungulu
iLembe
UMgungundlovu
eThekwini
Sisonke
Ugu

EMANGUSI
INGWAVUMA
PONGOLA
PAULPIETERSBURG
JOZINI
MKUZE
NEWCASTLE
VRYHEID
NGOME
NONGOMA
HLUHLUWE
DANNHAUSER
DUNDEE
NQUTU
HLABISA
ULUNDI
LADYSMITH
MELMOTH
NTAMBANANA
BERGVILLE
TUGELA FERRY
EMPANGENI
RICHARDS BAY
WEENEN
ESHOWE
ESTCOURT
GREYTOWN
AMATIKULU
MOOIRIVER
STANGER
HOWICK
MONTEBELLO
PIETERMARITZBURG
UNDERBERG
RICHMOND
DURBAN
CREIGHTON
IXOPO
UMZIMKHULU
SCOTTBURGH
MATATIELE
KOKSTAD
HARDING
PORT SHEPSTONE
MARGATE
PORT EDWARD

Compiled and Produced by
The GIS Unit

CD-4
Viral load
PCR

CD4 Counts

YEAR	TOTAL	Average per Month
2004	Data not available	
2005	170 114	14 176
2006	329 787	27 482
2007 (to September)	309 643 (Jan07 data missing)	38 705
2008	**644 834** **(> 1000 000)**	**53 736**

Raveen Parboosing, Virology KZN NHLS (2007)

Viral Loads

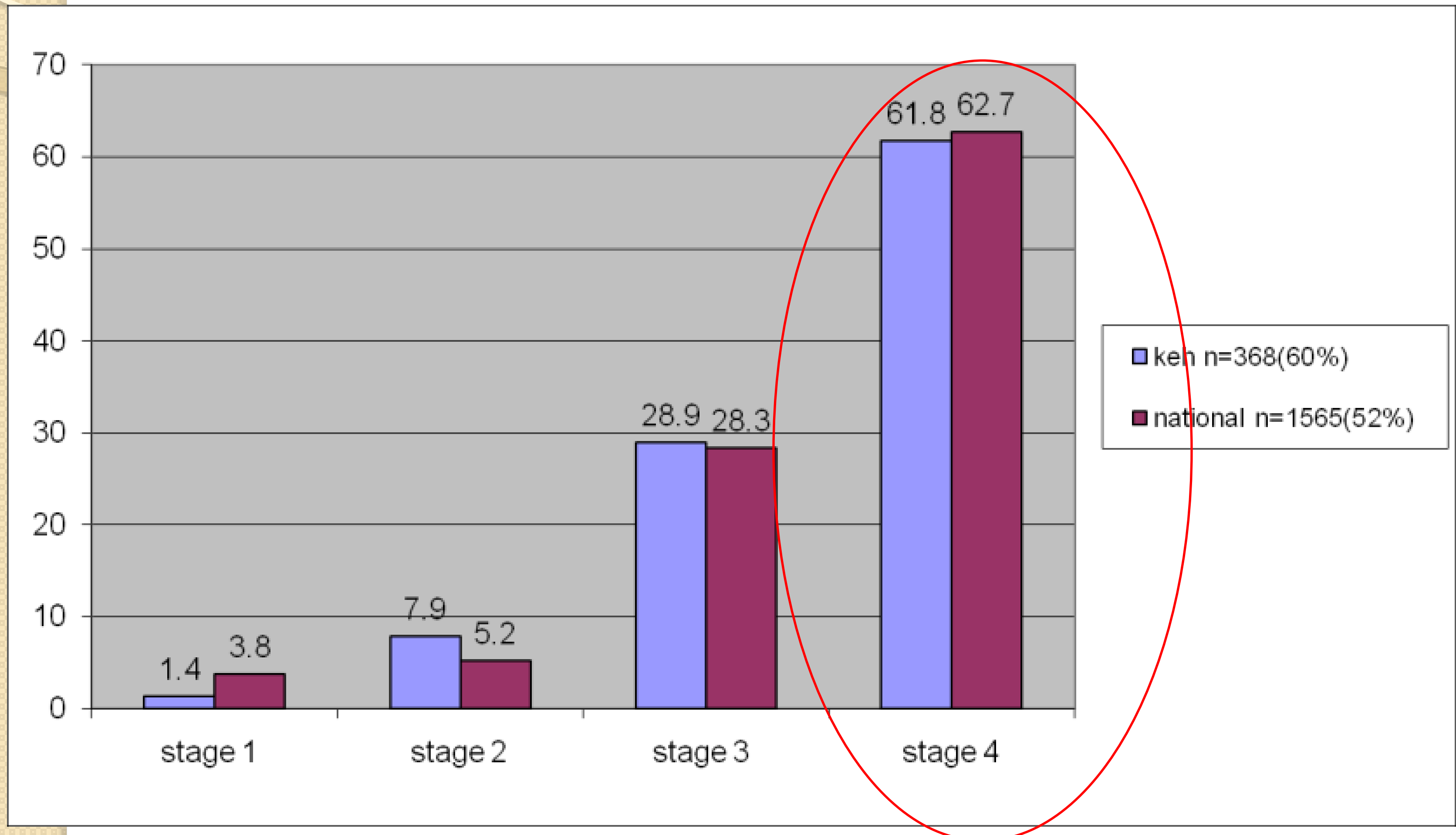
YEAR	TOTAL	Average per Month
2004	4 827	402
2005	32 909	2 742
2006	85 103	7 091
2007 (to September)	109 193	12 132
2008	**229 037**	**19 086**

Raveen Parboosing, Virology KZN NHLS (2007)

HAART for Kids in KZN- issues to deal with sustainability

1. Are we getting our money's worth – starting kids too late (opportunity cost – where do we concentrate scarce resources)
2. Should we target mothers first – make it a requirement
3. Health seeking behaviour – role of the primary General/Family practitioner

Majority of HIV infected individuals are categorized as WHO stage 4



Concerns on stage at which treatment started

1. Clinical stage 3 and 4 – could be late to ensure best outcome
2. Adolescent and early adult burden of disease
3. Need for exclusion criteria

4. End – organ damage :

- Cor Pulmonale
- Hepatitis – Liver disease
- Non –progressive Encephalopathy
- Some HIVAN
- Some Cardiomyopathy

Ndirangu J et al. *A decline in early life mortality in a high HIV prevalence rural area of South Africa: associated with implementation of PMTCT and/or ART programmes?*
5th International AIDS Society Conference on HIV Treatment,Pathogenesis and

Prevention, Cape Town, abstract WeD105, 2009.

- "Overall, U2CMR substantially declined in our area from 2001 and this is despite a continued high HIV prevalence and incidence in the area,"

- On the basis of the multivariate analysis, much of the effect was due to maternal access to ART.

To save a life of an HIV positive child put the mother on HAART first

Health Seeking Behavior in Northern KwaZulu-Natal

Anne Case
Princeton University and Visiting Scientist, Africa Centre for Health and Population Studies

Alicia Menendez
University of Chicago and Visiting Scientist, Africa Centre for Health and Population Studies

Cally Ardington
University of Cape Town and Visiting Scientist,
Africa Centre for Health and Population Studies