Adddison’s disease associated with advanced HIV may explain the high mortality

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2022-03-12

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Variable

**N = 431**

**Age at enrolment**

36 (31, 42)

**Gender**

Female

218 (51%)

Male

211 (49%)

**Ethnicity**

Asian

1 (0.2%)

Black African

357 (83%)

Coloured

68 (16%)

White

2 (0.5%)

Variable

**N = 431**

**HIV-positive, confirmed on ELISA**

Yes

427 (100%)

**Total CD4 count…9**

31 (14, 60)

**CD4 < 100**

428 (99%)

**Opportunistic infection present**

424 (99%)

**Oral or inhaled steroids in the last three months**

5 (1.2%)

**days since employment**

1,155 (0, 2,100)

**Duration of current illness**

14 (14, 21)

Variable

**N = 431**

**Opportunistic infection (choice=Tuberculosis)**

Checked

313 (73%)

Unchecked

118 (27%)

**Opportunistic infection (choice=Cryptococcus neoformans)**

Checked

1 (0.2%)

Unchecked

430 (100%)

**Opportunistic infection (choice=Toxoplasmosis)**

Unchecked

431 (100%)

**Opportunistic infection (choice=Mycobacterium avium-intracellulare)**

Unchecked

431 (100%)

**Opportunistic infection (choice=Kaposis sarcoma)**

Checked

1 (0.2%)

Unchecked

430 (100%)

**Opportunistic infection (choice=Cytomegalovirus)**

Checked

1 (0.2%)

Unchecked

430 (100%)

**Opportunistic infection (choice=Other)**

Checked

114 (26%)

Unchecked

317 (74%)

Variable

**N = 431**

**BP (systolic)**

110 (100, 125)

**BP (diastolic)**

70 (60, 78)

**Heart rate**

92 (80, 110)

**Hypotension**

30 (7.3%)

**Weakness**

343 (84%)

**Tiredness**

349 (85%)

**Poor appetite**

307 (75%)

**Weight loss**

363 (88%)

**Increased pigmentation of the skin**

180 (46%)

**Nausea**

209 (51%)

Variable

**N = 431**

**Vomiting**

112 (27%)

**Liking for salt**

256 (63%)

**Hypoglycaemia**

9 (2.2%)

**Loss of consciousness**

5 (1.2%)

**Diarrhoea**

162 (40%)

**Dizziness**

179 (44%)

**Shock**

5 (1.2%)

**Anorexia**

172 (42%)

**Loss of axillary and pubic hair, if female**

No

151 (36%)

Not applicable

196 (47%)

Yes

68 (16%)

**Any postural drop in blood pressure**

14 (3.4%)

Variable

**N = 431**

**Presence of anaemia**

223 (55%)

**Total CD4 count…89**

31 (14, 60)

**log10 viral load**

4.54 (3.16, 5.35)

**Or, HIV viral load = LDL (choice=LDL)**

Checked

1 (0.2%)

Unchecked

430 (100%)

**Current tuberculosis**

359 (87%)

**Past tuberculosis**

230 (57%)

**Electrolytes available**

416 (100%)

**Sodium**

134.0 (130.0, 137.0)

**Potassium**

4.10 (3.60, 4.60)

**Urea**

6 (4, 11)

Variable

**N = 431**

**Creatinine**

71 (50, 115)

**Full blood count (FBC) result available**

399 (100%)

**Haemoglobin**

8.70 (7.40, 10.30)

**White cell count**

5.3 (3.5, 8.0)

**Platelets**

229 (127, 338)

**MCV**

86 (80, 92)

**Differential on FBC available**

94 (23%)

**Neutrophils**

3 (1, 8)

**Lymphocyte count**

0.8 (0.4, 1.8)

**Eosinophils**

0.03 (0.01, 0.35)

**Basophils**

0

3 (18%)

0.01

6 (35%)

0.029999999

1 (5.9%)

0.039999999

3 (18%)

0.079999998

1 (5.9%)

0.090000004

1 (5.9%)

1.299999952

1 (5.9%)

1.399999976

1 (5.9%)

**Aetiology of anaemia**

Chronic

139 (64%)

Folate deficiency

3 (1.4%)

Iron deficiency

39 (18%)

Other

23 (11%)

Vitamin B12

14 (6.4%)

Variable

**N = 431**

**Random cortisol result**

468 (369, 575)

**Random cortisol result coded**

(80,500]

220 (58%)

(500,1.4e+03]

160 (42%)

**ACTH result**

32 (21, 51)

**ACTH result coded**

(0,13.9]

62 (16%)

(13.9,500]

319 (84%)

**Antibodies sample drawn**

Yes

387 (100%)

**Confirm random cortisol < 500 nmol/L**

220 (51%)

**Confirm patient not on steroids for past 3 months**

355 (93%)

**Synacthen: 0 minute cortisol result**

422 (315, 561)

**Synacthen: 30 minute cortisol result**

697 (548, 826)

**addisons\_disease**

30 (9.4%)

Variable

**N = 431**

**CT scan done**

No

375 (100%)

**Bilateral adrenal enlargement**

0 (NA%)

**Calcification**

0 (NA%)

**Atrophy**

0 (NA%)

**Haemorrhage**

0 (NA%)

**Nodularity**

0 (NA%)

**Outcome of hospitalization**

Demised –> EXIT form

49 (15%)

Discharged home

276 (85%)

Other

1 (0.3%)

Variable

**N = 431**

**3 followup\_done**

102 (37%)

**3 followup\_patientstatus**

Alive

128 (83%)

Deceased –> EXIT form

27 (17%)

**3 followup\_patientcondition**

Deteriorated

4 (4.4%)

Improved

85 (94%)

Unchanged

1 (1.1%)

**6 followup\_done**

113 (42%)

**6 followup\_patientstatus**

Alive

130 (79%)

Deceased –> EXIT form

35 (21%)

**6 followup\_patientcondition**

Deteriorated

2 (2.0%)

Improved

94 (96%)

Unchanged

2 (2.0%)

**12 followup\_done**

154 (62%)

**12 followup\_patientstatus**

Alive

142 (76%)

Deceased –> EXIT form

44 (24%)

**12 followup\_patientcondition**

Deteriorated

6 (4.3%)

Improved

127 (91%)

Unchanged

7 (5.0%)

**If deceased, cause of death**

* MDR
* 1 (1.1%)
* Acute gastroenteritis hypocalemia
* 1 (1.1%)
* Acute kidney injury
* 1 (1.1%)
* Cancer
* 1 (1.1%)
* Cancer (According to the wife)
* 1 (1.1%)
* Chronic diarrhea
* 1 (1.1%)
* Chronic kidney disease, stage 5
* 1 (1.1%)
* COPD
* 1 (1.1%)
* Cryptococcal meningitis
* 1 (1.1%)
* Diss. TB
* 4 (4.4%)
* Diss/TB
* 2 (2.2%)
* Double Pneumonia
* 1 (1.1%)
* Drug induced liver injury (DILI)
* 1 (1.1%)
* Drug induced pancreatitis
* 1 (1.1%)
* Female pelvic inflammatory disease, unspecified
* 1 (1.1%)
* Gastroenteritis
* 1 (1.1%)
* Head Trauma
* 1 (1.1%)
* Hepatitis B
* 1 (1.1%)
* HIV
* 1 (1.1%)
* HIV-Encephalous
* 1 (1.1%)
* Interstitial pulmonary disease
* 1 (1.1%)
* Jaundice
* 1 (1.1%)
* Kaposi Sarcoma
* 1 (1.1%)
* Kidney failure
* 2 (2.2%)
* Kidney failure and PTB
* 1 (1.1%)
* Liver failure
* 1 (1.1%)
* LRTI/RVD
* 1 (1.1%)
* Lymphoid. Haematopoietic related tissue
* 1 (1.1%)
* Lymphoma
* 2 (2.2%)
* MDR
* 1 (1.1%)
* MDR Chronic Diarrhoea
* 1 (1.1%)
* MDR TB
* 1 (1.1%)
* Meningitis
* 1 (1.1%)
* Meningitis / MDR TB
* 1 (1.1%)
* Natural causes
* 7 (7.7%)
* No diagnosis
* 1 (1.1%)
* Oesophageal Conditis
* 1 (1.1%)
* Pancytopenia and TB
* 1 (1.1%)
* Pneumonia
* 2 (2.2%)
* PTB
* 6 (6.6%)
* PTB/Diss. TB
* 1 (1.1%)
* Pulmonary TB
* 3 (3.3%)
* Renal failure
* 2 (2.2%)
* Renal Failure
* 1 (1.1%)
* Respiratory Pneumonia
* 1 (1.1%)
* Seizures
* 2 (2.2%)
* Sepsis
* 2 (2.2%)
* Sepsis TB
* 1 (1.1%)
* Sepsis/TBM
* 1 (1.1%)
* Sepsis? Had boil in neck
* 1 (1.1%)
* Septicemia
* 1 (1.1%)
* TB
* 1 (1.1%)
* TB and heart failure
* 1 (1.1%)
* TB and Meningitis
* 1 (1.1%)
* TB Default
* 2 (2.2%)
* TB intestines
* 1 (1.1%)
* TB Meningitis
* 1 (1.1%)
* TB/Ascites
* 1 (1.1%)
* Tuberculosis
* 1 (1.1%)
* unknown
* 1 (1.1%)
* Unknown
* 7 (7.7%)

# Table 2: Patients diagnosed with hypoadrenalism in advanced HIV study, compred to those with normal adreal function

## Socio-demographics by hypoadrenalism + advanced HIV and without

patients with hypoadrenalism with advanced HIV (CD4<100) and not on steriods whether oral or injectable

**Characteristic**

**N**

**OR**

**95% CI**

**p-value**

Age at enrolment

320

1.00

0.96, 1.05

0.8

gender

320

Female

Male

1.03

0.48, 2.23

>0.9

ethnicity

319

Asian

Black African

604,812

0.00, NA

>0.9

Coloured

470,026

0.00, NA

>0.9

White

1.00

0.00, 252,405,882,915,600,544

>0.9

# Table 2: Signs by hypoadrenalism + advanced HIV and without

**Characteristic**

**N**

**OR**

**95% CI**

**p-value**

BP (systolic)

320

1.01

0.99, 1.03

0.3

BP (diastolic)

320

1.02

0.99, 1.05

0.2

Heart rate

320

0.99

0.97, 1.01

0.5

Hypotension

306

No

Yes

0.39

0.02, 1.99

0.4

Weakness

307

No

Yes

0.32

0.13, 0.82

0.012

Tiredness

308

No

Yes

0.33

0.13, 0.96

0.029

Poor appetite

305

No

Yes

0.93

0.38, 2.62

0.9

Weight loss

309

No

Yes

0.41

0.15, 1.31

0.10

Increased pigmentation of the skin

293

No

Yes

0.71

0.30, 1.61

0.4

Nausea

308

No

Yes

1.11

0.51, 2.42

0.8

# Table 2: Signs by hypoadrenalism + advanced HIV and without - Continued 2

**Characteristic**

**N**

**OR**

**95% CI**

**p-value**

Vomiting

307

No

Yes

1.35

0.58, 2.98

0.5

Liking for salt

306

No

Yes

0.85

0.38, 1.98

0.7

Hypoglycaemia

307

No

Yes

0.00

>0.9

Loss of consciousness

305

No

Yes

0.00

>0.9

Diarrhoea

305

No

Yes

0.72

0.31, 1.56

0.4

Dizziness

306

No

Yes

1.14

0.52, 2.50

0.7

Shock

309

No

Yes

0.00

>0.9

Anorexia

307

No

Yes

0.47

0.19, 1.05

0.078

Loss of axillary and pubic hair, if female

310

No

Not applicable

0.81

0.36, 1.83

0.6

Yes

0.30

0.05, 1.14

0.12

Any postural drop in blood pressure

307

No

Yes

0.87

0.05, 4.71

0.9

# Table 2: Signs by hypoadrenalism + advanced HIV and without - Continued 3

**Characteristic**

**N**

**OR**

**95% CI**

**p-value**

Presence of anaemia

304

No

Yes

1.00

0.46, 2.18

>0.9

Total CD4 count

319

1.00

0.98, 1.01

0.5

log10 viral load

65

1.53

0.64, 5.14

0.4

Or, HIV viral load = LDL (choice=LDL)

321

Checked

Unchecked

211,090

0.00, NA

>0.9

Current tuberculosis

309

No

Yes

0.34

0.14, 0.91

0.023

Past tuberculosis

302

No

Yes

0.83

0.38, 1.82

0.6

Sodium

305

1.03

0.98, 1.08

0.2

Potassium

306

1.06

0.99, 1.13

0.045

Urea

304

0.99

0.95, 1.01

0.6

**Characteristic**

**N**

**OR**

**95% CI**

**p-value**

Creatinine

319

1.00

1.00, 1.00

0.4

Full blood count (FBC) result available

298

No

Yes

0.00

>0.9

Haemoglobin

319

1.02

0.86, 1.21

0.8

White cell count

318

1.00

0.8

Platelets

315

1.00

1.00, 1.00

0.4

MCV

294

1.00

0.99, 1.00

>0.9

Differential on FBC available

306

No

Yes

1.23

0.47, 2.89

0.7

Neutrophils

61

1.01

1.00, 1.03

0.12

Lymphocyte count

62

1.05

0.94, 1.15

0.3

Eosinophils

41

2.14

1.03, 9.21

0.14

Basophils

15

0.00

0.00, 0.00

0.5

Aetiology of anaemia

165

Chronic

Folate deficiency

8.33

0.36, 100

0.10

Iron deficiency

3.03

0.72, 11.5

0.11

Other

5.13

1.18, 20.5

0.021

Vitamin B12

1.39

0.07, 9.14

0.8

**Characteristic**

**N**

**OR**

**95% CI**

**p-value**

3 followup\_done

228

No

Yes

1.13

0.47, 2.58

0.8

3 followup\_patientstatus

126

Alive

Deceased –> EXIT form

1.39

0.29, 5.13

0.6

3 followup\_patientcondition

72

Deteriorated

Improved

0.06

0.00, 0.67

0.026

Unchanged

0.00

>0.9

6 followup\_done

226

No

Yes

1.05

0.45, 2.42

>0.9

6 followup\_patientstatus

137

Alive

Deceased –> EXIT form

1.60

0.41, 5.32

0.5

6 followup\_patientcondition

84

Deteriorated

Improved

0.08

0.00, 2.22

0.089

Unchanged

0.00

>0.9

12 followup\_done

212

No

Yes

0.54

0.22, 1.29

0.2

12 followup\_patientstatus

158

Alive

Deceased –> EXIT form

1.17

0.31, 3.66

0.8

12 followup\_patientcondition

119

Deteriorated

Improved

0.18

0.02, 4.09

0.2

Unchanged

0.00

>0.9

If deceased, cause of death

76

* MDR
* Acute gastroenteritis hypocalemia
* 1.00
* 0.00, Inf
* >0.9
* Acute kidney injury
* 1.00
* 0.00, Inf
* >0.9
* Cancer
* 1.00
* 0.00, Inf
* >0.9
* Cancer (According to the wife)
* 1.00
* 0.00, Inf
* >0.9
* Chronic diarrhea
* 1.00
* 0.00, Inf
* >0.9
* Chronic kidney disease, stage 5
* 39,869,252,698,223,566,848
* 0.00, NA
* >0.9
* COPD
* 1.00
* 0.00, Inf
* >0.9
* Cryptococcal meningitis
* 1.00
* 0.00, Inf
* >0.9
* Diss. TB
* 1.00
* 0.00, Inf
* >0.9
* Diss/TB
* 1.00
* 0.00, Inf
* >0.9
* Double Pneumonia
* 39,869,252,233,939,902,464
* 0.00, NA
* >0.9
* Drug induced liver injury (DILI)
* 1.00
* 0.00, Inf
* >0.9
* Drug induced pancreatitis
* 1.00
* 0.00, Inf
* >0.9
* Gastroenteritis
* 1.00
* 0.00, Inf
* >0.9
* Hepatitis B
* 1.00
* 0.00, Inf
* >0.9
* HIV
* 1.00
* 0.00, Inf
* >0.9
* Interstitial pulmonary disease
* 1.00
* 0.00, Inf
* >0.9
* Jaundice
* 1.00
* 0.00, Inf
* >0.9
* Kaposi Sarcoma
* 1.00
* 0.00, Inf
* >0.9
* Kidney failure
* 1.00
* 0.00, Inf
* >0.9
* Liver failure
* 1.00
* 0.00, Inf
* >0.9
* Lymphoid. Haematopoietic related tissue
* 1.00
* 0.00, Inf
* >0.9
* Lymphoma
* 1.00
* 0.00, Inf
* >0.9
* MDR
* 1.00
* 0.00, Inf
* >0.9
* MDR Chronic Diarrhoea
* 1.00
* 0.00, Inf
* >0.9
* MDR TB
* 1.00
* 0.00, Inf
* >0.9
* Meningitis
* 39,869,255,185,048,780,800
* 0.00, NA
* >0.9
* Meningitis / MDR TB
* 1.00
* 0.00, Inf
* >0.9
* Natural causes
* 1.00
* 0.00, Inf
* >0.9
* No diagnosis
* 1.00
* 0.00, Inf
* >0.9
* Oesophageal Conditis
* 1.00
* 0.00, Inf
* >0.9
* Pneumonia
* 1.00
* 0.00, Inf
* >0.9
* PTB
* 1.00
* 0.00, Inf
* >0.9
* PTB/Diss. TB
* 1.00
* 0.00, Inf
* >0.9
* Pulmonary TB
* 1.00
* 0.00, Inf
* >0.9
* Renal failure
* 1.00
* 0.00, Inf
* >0.9
* Renal Failure
* 1.00
* 0.00, Inf
* >0.9
* Respiratory Pneumonia
* 1.00
* 0.00, Inf
* >0.9
* Seizures
* 39,869,252,225,723,695,104
* 0.00, NA
* >0.9
* Sepsis TB
* 1.00
* 0.00, Inf
* >0.9
* Sepsis/TBM
* 1.00
* 0.00, Inf
* >0.9
* Sepsis? Had boil in neck
* 39,869,252,712,504,115,200
* 0.00, NA
* >0.9
* Septicemia
* 1.00
* 0.00, Inf
* >0.9
* TB and heart failure
* 1.00
* 0.00, Inf
* >0.9
* TB and Meningitis
* 1.00
* 0.00, Inf
* >0.9
* TB Default
* 1.00
* 0.00, Inf
* >0.9
* TB intestines
* 1.00
* 0.00, Inf
* >0.9
* TB Meningitis
* 1.00
* 0.00, Inf
* >0.9
* TB/Ascites
* 1.00
* 0.00, Inf
* >0.9
* Tuberculosis
* 1.00
* 0.00, Inf
* >0.9
* unknown
* 1.00
* 0.00, Inf
* >0.9
* Unknown
* 1,262,842,047
* 0.00, NA
* >0.9

# Table 3: Clinical features predictive of hypoadrenalism–addisons\_disease (hypoadrenalism status of study paticipants) vs other variables

Variable

**N**

**0**, N = 288

**1**, N = 30

**p-value**

**Age at enrolment**

318

37 (9)

37 (9)

0.9

**gender**

318

>0.9

Female

151 (52%)

16 (53%)

Male

137 (48%)

14 (47%)

**ethnicity**

317

0.9

Asian

1 (0.3%)

0 (0%)

Black African

235 (82%)

26 (87%)

Coloured

49 (17%)

4 (13%)

White

2 (0.7%)

0 (0%)

Variable

**N**

**0**, N = 288

**1**, N = 30

**p-value**

**HIV-positive, confirmed on ELISA**

316

Yes

286 (100%)

30 (100%)

**Total CD4 count**

317

37 (27)

34 (28)

0.6

**CD4 < 100**

318

286 (99%)

30 (100%)

>0.9

**Opportunistic infection present**

317

287 (100%)

30 (100%)

>0.9

**Oral or inhaled steroids in the last three months**

315

2 (0.7%)

1 (3.3%)

0.3

**days since employment**

50

570 (2,100)

2,456 (1,561)

0.035

**Duration of current illness**

300

35 (109)

20 (15)

0.4

**Characteristic**

**N**

**0**, N = 288

**1**, N = 30

**p-value**

Tuberculosis

318

0.018

Checked

220 (76%)

17 (57%)

Unchecked

68 (24%)

13 (43%)

Cryptococcus neoformans

318

>0.9

Checked

0 (0%)

0 (0%)

Unchecked

288 (100%)

30 (100%)

Toxoplasmosis

318

Unchecked

288 (100%)

30 (100%)

Mycobacterium avium-intracellulare

318

Unchecked

288 (100%)

30 (100%)

Kaposis sarcoma

318

>0.9

Checked

1 (0.3%)

0 (0%)

Unchecked

287 (100%)

30 (100%)

Cytomegalovirus

318

0.094

Checked

0 (0%)

1 (3.3%)

Unchecked

288 (100%)

29 (97%)

Other

318

0.044

Checked

75 (26%)

13 (43%)

Unchecked

213 (74%)

17 (57%)

# A tibble: 431 x 8

Tuberculosis Cryptococcus ~ Toxoplasmosis Mycobacterium~ Kaposis sarco~   
1 Unchecked Unchecked Unchecked Unchecked Unchecked  
2 Unchecked Unchecked Unchecked Unchecked Unchecked  
3 Checked Unchecked Unchecked Unchecked Unchecked  
4 Unchecked Unchecked Unchecked Unchecked Unchecked  
5 Checked Unchecked Unchecked Unchecked Unchecked  
6 Unchecked Unchecked Unchecked Unchecked Unchecked  
7 Unchecked Unchecked Unchecked Unchecked Unchecked  
8 Unchecked Unchecked Unchecked Unchecked Unchecked  
9 Unchecked Unchecked Unchecked Unchecked Unchecked  
10 Checked Unchecked Unchecked Unchecked Unchecked  
# … with 421 more rows, and 3 more variables: Cytomegalovirus , # Other , addisons\_disease

Variable

**N**

**0**, N = 288

**1**, N = 30

**p-value**

**BP (systolic)**

318

114 (18)

118 (15)

0.13

**BP (diastolic)**

318

69 (12)

72 (11)

0.093

**Heart rate**

318

96 (20)

92 (20)

0.4

**Hypotension**

305

22 (8.0%)

1 (3.3%)

0.7

**Weakness**

306

246 (89%)

22 (73%)

0.020

**Tiredness**

307

255 (92%)

24 (80%)

0.042

**Poor appetite**

304

220 (80%)

24 (80%)

>0.9

**Weight loss**

308

257 (92%)

25 (83%)

0.2

**Increased pigmentation of the skin**

292

129 (48%)

10 (38%)

0.3

**Nausea**

307

147 (53%)

16 (53%)

>0.9

Variable

**N**

**0**, N = 288

**1**, N = 30

**p-value**

**Vomiting**

306

78 (28%)

10 (33%)

0.6

**Liking for salt**

305

189 (68%)

18 (62%)

0.5

**Hypoglycaemia**

306

7 (2.5%)

0 (0%)

>0.9

**Loss of consciousness**

304

2 (0.7%)

0 (0%)

>0.9

**Diarrhoea**

304

117 (43%)

10 (33%)

0.3

**Dizziness**

305

129 (47%)

15 (52%)

0.6

**Shock**

308

3 (1.1%)

0 (0%)

>0.9

**Anorexia**

306

125 (45%)

8 (27%)

0.051

**Loss of axillary and pubic hair, if female**

309

0.2

No

97 (35%)

14 (47%)

Not applicable

131 (47%)

14 (47%)

Yes

51 (18%)

2 (6.7%)

**Any postural drop in blood pressure**

306

11 (4.0%)

1 (3.3%)

>0.9

Variable

**N**

**0**, N = 288

**1**, N = 30

**p-value**

**Presence of anaemia**

303

151 (55%)

16 (53%)

0.8

**log10 viral load**

65

4.23 (1.45)

4.96 (0.38)

0.6

**Or, HIV viral load = LDL (choice=LDL)**

318

>0.9

Checked

1 (0.3%)

0 (0%)

Unchecked

287 (100%)

30 (100%)

**Current tuberculosis**

307

250 (90%)

23 (77%)

0.034

**Past tuberculosis**

301

161 (59%)

17 (57%)

0.8

**Electrolytes available**

312

284 (100%)

28 (100%)

>0.9

**Sodium**

303

133.5 (6.8)

135.1 (4.8)

0.10

**Potassium**

304

4.45 (3.12)

6.17 (8.38)

0.4

**Urea**

302

11 (18)

9 (9)

0.7

Variable

**N**

**0**, N = 288

**1**, N = 30

**p-value**

**Creatinine**

317

143 (302)

192 (326)

0.078

**Full blood count (FBC) result available**

296

268 (100%)

27 (96%)

0.095

**Haemoglobin**

317

8.97 (2.23)

9.05 (2.11)

>0.9

**White cell count**

316

14.3 (84.1)

10.4 (16.3)

0.5

**Platelets**

313

251 (157)

218 (161)

0.2

**MCV**

292

90 (66)

90 (11)

0.088

**Differential on FBC available**

304

57 (21%)

7 (23%)

0.7

**Neutrophils**

61

11 (22)

70 (156)

0.7

**Lymphocyte count**

62

3.0 (5.8)

6.3 (13.4)

0.3

**Eosinophils**

41

0.23 (0.44)

1.55 (2.80)

0.2

**Basophils**

15

>0.9

0

2 (15%)

0 (0%)

0.01

4 (31%)

2 (100%)

0.029999999

1 (7.7%)

0 (0%)

0.039999999

2 (15%)

0 (0%)

0.079999998

1 (7.7%)

0 (0%)

0.090000004

1 (7.7%)

0 (0%)

1.299999952

1 (7.7%)

0 (0%)

1.399999976

1 (7.7%)

0 (0%)

**Aetiology of anaemia**

164

0.040

Chronic

99 (67%)

6 (38%)

Folate deficiency

2 (1.4%)

1 (6.2%)

Iron deficiency

22 (15%)

4 (25%)

Other

13 (8.8%)

4 (25%)

Vitamin B12

12 (8.1%)

1 (6.2%)

Variable

**N**

**0**, N = 288

**1**, N = 30

**p-value**

**CT scan done**

311

No

283 (100%)

28 (100%)

**Bilateral adrenal enlargement**

0

0 (NA%)

0 (NA%)

**Calcification**

0

0 (NA%)

0 (NA%)

**Atrophy**

0

0 (NA%)

0 (NA%)

**Haemorrhage**

0

0 (NA%)

0 (NA%)

**Nodularity**

0

0 (NA%)

0 (NA%)

**Outcome of hospitalization**

272

0.020

Demised –> EXIT form

40 (16%)

0 (0%)

Discharged home

204 (84%)

28 (100%)

Other

0 (0%)

0 (0%)

Variable

**N**

**0**, N = 288

**1**, N = 30

**p-value**

**3 followup\_done**

228

72 (36%)

10 (37%)

>0.9

**3 followup\_patientstatus**

126

0.7

Alive

92 (81%)

9 (75%)

Deceased –> EXIT form

22 (19%)

3 (25%)

**3 followup\_patientcondition**

72

0.074

Deteriorated

1 (1.6%)

2 (22%)

Improved

61 (97%)

7 (78%)

Unchanged

1 (1.6%)

0 (0%)

**6 followup\_done**

226

86 (43%)

11 (42%)

>0.9

**6 followup\_patientstatus**

137

0.5

Alive

97 (78%)

9 (69%)

Deceased –> EXIT form

27 (22%)

4 (31%)

**6 followup\_patientcondition**

84

0.3

Deteriorated

1 (1.3%)

1 (14%)

Improved

74 (96%)

6 (86%)

Unchanged

2 (2.6%)

0 (0%)

**12 followup\_done**

212

119 (63%)

11 (46%)

0.10

**12 followup\_patientstatus**

158

0.8

Alive

109 (76%)

11 (73%)

Deceased –> EXIT form

34 (24%)

4 (27%)

**12 followup\_patientcondition**

119

0.3

Deteriorated

2 (1.8%)

1 (10%)

Improved

100 (92%)

9 (90%)

Unchanged

7 (6.4%)

0 (0%)

**If deceased, cause of death**

76

0.2

* MDR
* 1 (1.4%)
* 0 (0%)
* Acute gastroenteritis hypocalemia
* 1 (1.4%)
* 0 (0%)
* Acute kidney injury
* 1 (1.4%)
* 0 (0%)
* Cancer
* 1 (1.4%)
* 0 (0%)
* Cancer (According to the wife)
* 1 (1.4%)
* 0 (0%)
* Chronic diarrhea
* 1 (1.4%)
* 0 (0%)
* Chronic kidney disease, stage 5
* 0 (0%)
* 1 (17%)
* COPD
* 1 (1.4%)
* 0 (0%)
* Cryptococcal meningitis
* 1 (1.4%)
* 0 (0%)
* Diss. TB
* 3 (4.3%)
* 0 (0%)
* Diss/TB
* 2 (2.9%)
* 0 (0%)
* Double Pneumonia
* 0 (0%)
* 1 (17%)
* Drug induced liver injury (DILI)
* 1 (1.4%)
* 0 (0%)
* Drug induced pancreatitis
* 1 (1.4%)
* 0 (0%)
* Female pelvic inflammatory disease, unspecified
* 0 (0%)
* 0 (0%)
* Gastroenteritis
* 1 (1.4%)
* 0 (0%)
* Head Trauma
* 0 (0%)
* 0 (0%)
* Hepatitis B
* 1 (1.4%)
* 0 (0%)
* HIV
* 1 (1.4%)
* 0 (0%)
* HIV-Encephalous
* 0 (0%)
* 0 (0%)
* Interstitial pulmonary disease
* 1 (1.4%)
* 0 (0%)
* Jaundice
* 1 (1.4%)
* 0 (0%)
* Kaposi Sarcoma
* 1 (1.4%)
* 0 (0%)
* Kidney failure
* 1 (1.4%)
* 0 (0%)
* Kidney failure and PTB
* 0 (0%)
* 0 (0%)
* Liver failure
* 1 (1.4%)
* 0 (0%)
* LRTI/RVD
* 0 (0%)
* 0 (0%)
* Lymphoid. Haematopoietic related tissue
* 1 (1.4%)
* 0 (0%)
* Lymphoma
* 1 (1.4%)
* 0 (0%)
* MDR
* 1 (1.4%)
* 0 (0%)
* MDR Chronic Diarrhoea
* 1 (1.4%)
* 0 (0%)
* MDR TB
* 1 (1.4%)
* 0 (0%)
* Meningitis
* 0 (0%)
* 1 (17%)
* Meningitis / MDR TB
* 1 (1.4%)
* 0 (0%)
* Natural causes
* 7 (10%)
* 0 (0%)
* No diagnosis
* 1 (1.4%)
* 0 (0%)
* Oesophageal Conditis
* 1 (1.4%)
* 0 (0%)
* Pancytopenia and TB
* 0 (0%)
* 0 (0%)
* Pneumonia
* 2 (2.9%)
* 0 (0%)
* PTB
* 6 (8.6%)
* 0 (0%)
* PTB/Diss. TB
* 1 (1.4%)
* 0 (0%)
* Pulmonary TB
* 3 (4.3%)
* 0 (0%)
* Renal failure
* 2 (2.9%)
* 0 (0%)
* Renal Failure
* 1 (1.4%)
* 0 (0%)
* Respiratory Pneumonia
* 1 (1.4%)
* 0 (0%)
* Seizures
* 0 (0%)
* 1 (17%)
* Sepsis
* 0 (0%)
* 0 (0%)
* Sepsis TB
* 1 (1.4%)
* 0 (0%)
* Sepsis/TBM
* 1 (1.4%)
* 0 (0%)
* Sepsis? Had boil in neck
* 0 (0%)
* 1 (17%)
* Septicemia
* 1 (1.4%)
* 0 (0%)
* TB
* 0 (0%)
* 0 (0%)
* TB and heart failure
* 1 (1.4%)
* 0 (0%)
* TB and Meningitis
* 1 (1.4%)
* 0 (0%)
* TB Default
* 1 (1.4%)
* 0 (0%)
* TB intestines
* 1 (1.4%)
* 0 (0%)
* TB Meningitis
* 1 (1.4%)
* 0 (0%)
* TB/Ascites
* 1 (1.4%)
* 0 (0%)
* Tuberculosis
* 1 (1.4%)
* 0 (0%)
* unknown
* 1 (1.4%)
* 0 (0%)
* Unknown
* 5 (7.1%)
* 1 (17%)

# Table 4 (Mortality): Predictors of recurrent admission, mortality, including basal cortisol, stimulated cortisol, incremental cortisol

Variable

**N**

**0**, N = 378

**1**, N = 53

**p-value**

**Ethnicity**

428

0.3

Asian

1 (0.3%)

0 (0%)

Black African

312 (83%)

45 (85%)

Coloured

61 (16%)

7 (13%)

White

1 (0.3%)

1 (1.9%)

**Gender**

429

0.4

Female

188 (50%)

30 (57%)

Male

188 (50%)

23 (43%)

**Total CD4 count**

428

39 (29)

34 (27)

0.2

**Random cortisol result**

381

488 (176)

490 (199)

0.8

**Synacthen: 30 minute cortisol result**

145

693 (231)

695 (235)

0.8

**Synacthen: 0 minute cortisol result**

148

446 (194)

508 (231)

0.2

**ACTH result**

381

39 (30)

55 (71)

0.088

**Neutrophils**

93

28 (116)

8 (22)

0.13

**Lymphocyte count**

93

4.3 (7.6)

1.1 (1.5)

0.5

**Haemoglobin**

426

10.76 (36.06)

9.03 (2.34)

>0.9

# Table 4 (Mortality): Predictors of recurrent admission, mortality, including basal cortisol, stimulated cortisol, incremental cortisol - continued

Variable

**N**

**0**, N = 378

**1**, N = 53

**p-value**

**Sodium**

408

133.9 (6.6)

133.4 (6.0)

0.7

**Hypoglycaemia**

408

8 (2.2%)

1 (2.0%)

>0.9

**BP (systolic)**

428

115 (18)

112 (14)

0.6

**BP (diastolic)**

428

69 (13)

71 (9)

0.059

**Current tuberculosis**

415

316 (87%)

43 (84%)

0.6

**Duration of current illness**

400

30 (96)

22 (23)

0.8

**HIV\_duration**

350

1,434 (1,957)

1,638 (2,004)

0.5

**n\_primary\_med\_conditions**

428

0.2

3

46 (12%)

12 (23%)

2

86 (23%)

12 (23%)

1

225 (60%)

26 (49%)

4

16 (4.3%)

3 (5.7%)

5

2 (0.5%)

0 (0%)

**n\_Coexisting\_medical\_conditions**

302

0.001

2

86 (33%)

10 (24%)

1

111 (43%)

9 (22%)

4

17 (6.5%)

10 (24%)

3

43 (16%)

11 (27%)

5

4 (1.5%)

1 (2.4%)

**addisons\_disease\_advanced\_HIV**

321

24 (8.8%)

5 (11%)

0.6

# Table 6: Multivariate logistical regression analysis, examining the variables independently predictive of a poor outcome

Cross validation model

Variable

Estimate

CI.lower

CI.upper

Addison’s disease advanced HIV

1.1065829

0.4010981

3.0529327

Lymphocyte count

0.8409678

0.7447470

0.9496202

BP diastolic

1.0115596

0.9890784

1.0345516