

# An audit of serological and molecular investigation of patients newly diagnosed with HIV

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## Introduction

Serological and molecular investigations of individuals with newly diagnosed HIV infection have evolved with the development of new, improved diagnostic methods. British HIV Association (BHIVA) published guidance on the routine investigation and monitoring of adult HIV-1-infected individuals, outlining the serological markers for opportunistic infections and molecular investigations to be carried out at the time of diagnosis. The Guidance was in the draft version at the time of the audit.

## Aim

To investigate laboratory tests performed on samples from newly diagnosed HIV positive individuals in a tertiary hospital, sourced from two different units, Infectious Diseases (ID) and Genito-urinary Medicine (GUM) and to confirm accordance with the recommendations.

## Methods

Data collected from laboratory records of patients who were newly diagnosed with HIV between November 2009 and November 2010. Clinical information was recorded from the respective clinical databases and case notes review.

## Results

Of 72 new HIV diagnoses recorded in the laboratory database, 31 were sourced from ID and 41 from GUM.

### Demographics:

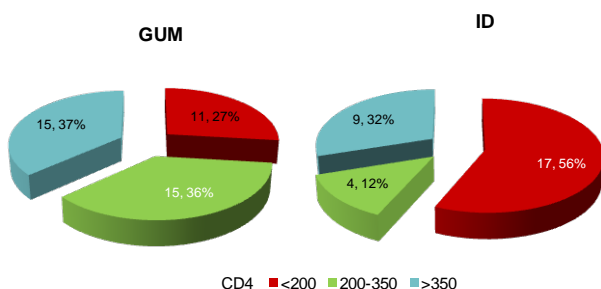
- Age of patients ranged from 19-57 yrs with an average of 33 yrs in GUM and 40 yrs in ID. In total 5 of the patients were >50 yrs.
- GUM had an almost equal distribution of men and women diagnosed with HIV at 49% and 51% respectively. ID had a predominance of men (74%)
- Overall 33% were White British, 53% Black British African or Caribbean and 7% other ethnic origin

### Stage of Diagnosis:

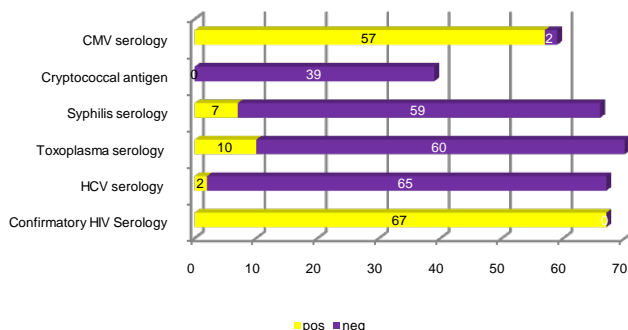
- In GUM 81% of individuals tested were asymptomatic, 2% symptomatic and 15% presented with AIDS. ID had a higher proportion of patients with AIDS (26%), 36% symptomatic and 23% asymptomatic.
- **CD4 count at diagnosis** was <350 in 68% of ID patients and 63% of GUM patients diagnosed with HIV.
- **Avidity testing** was carried out in all (100%) of the newly diagnosed cases from ID and 96% of those acquired the infection more than 6 months ago
- Out of 78% samples that were forwarded for avidity testing from GUM, 15% had acquired infection within 6 months.

### Molecular Testing:

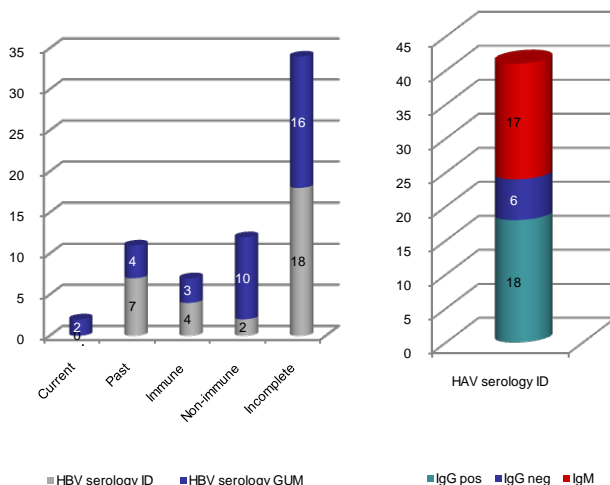
- **HIV viral load** was tested on all samples
- **Baseline resistance testing** was requested in 77% of new diagnoses from ID and 88% from GUM.
- **Resistance testing** done in 24/31 (77%) ID new diagnosis (1/7 sample with VL <500)
- Resistance testing done in 36/41 (88%) GUM new diagnosis (2/5 samples with VL <500)
- NNRTI resistance (3 GUM)



## Serological results:



## Parameters measured:



- HAV IgM testing was carried out instead of HAV IgG in 42% screening samples
- A complete HBV serological profile including HBsAg, anti-HBc and anti-HBs antibody was only done in 49% HBV screens. 51% had an incomplete screen.
- Measles IgG was not carried out on any of the new diagnoses.

## Discussion

>The majority of our new HIV cases (>60%) are diagnosed late (CD4 <350)

>There are inconsistencies in routine initial investigation of HIV infected individuals between two different departments within the same hospital.

>We created pre-printed labels which defines all the initial laboratory tests for all new diagnosis which would avoid errors in manual transcriptions. We hope this will ensure consistency in routine testing and we propose to re-audit this after 6 months.

## Conclusion

The current BHIVA guidance will be useful to achieve uniformity in routine testing and monitoring of HIV patients throughout the UK

## References

1. BHIVA Guidelines: Routine investigation and monitoring of adult HIV-1 infected individuals (2011)

## Acknowledgements

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## Serological investigations:

Parameters recorded	ID (n=31)	GUM (n=41)
Confirmatory HIV Serology(%)	30 (97%)	37 (90%)
HBV serology (%)	31 (100%)	35 (85%)
HCV serology (%)	31 (100%)	36 (88%)
HAV serology (%)	27 (87%)	14 (34%)
Toxoplasma serology (%)	31 (100%)	39 (95%)
Syphilis serology (%)	30 (97%)	36 (88%)
Cryptococcal antigen (%)	4 (13%)	35 (85%)
CMV serology (%)	30 (97%)	33 (80%)
VZV serology (%)	24 (77%)	5 (12%)