

13th Annual Conference of the
National HIV Nurses Association (NHVNA)



Helen Webb

St George's Healthcare NHS Trust, London

16-17 June 2011, Arena and Convention Centre, Liverpool

St George's Healthcare 
NHS Trust

Urine dipstick in the HIV clinic: routine but necessary?

Helen Webb
Clinical Nurse Specialist
HIV Services
George's Healthcare NHS Trust

Background

- BHIVA guidelines: *Routine investigation and monitoring of adult HIV-1-infected individuals (2010)*
 - All patients have urinalysis at least once a year
 - Patients on tenofavir based regimens have urinalysis on each clinic visit
- Nurses able to order additional tests (MSU, uPCR) based on findings
- Gross abnormalities reported to the clinician

Aims

- To identify the extent and nature of abnormalities on urine dipstick
- To identify what additional laboratory tests were ordered based on the results of the dipstick
- To explore the clinical significance of abnormalities on urine dipstick and the effect on patient management

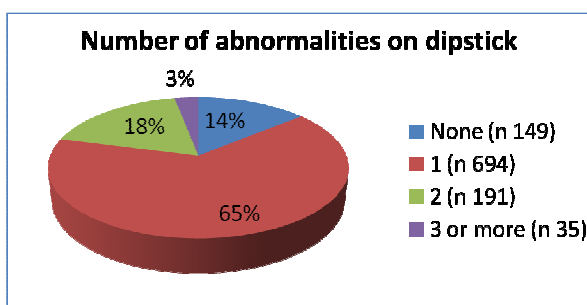
Methods

- Urinalysis performed using commercial urine dipstick
- Results recorded on a database
- Concurrently requested urine laboratory tests and results added retrospectively
- Patient records examined for patients with significant abnormalities
 - Medical history
 - Treatment changes



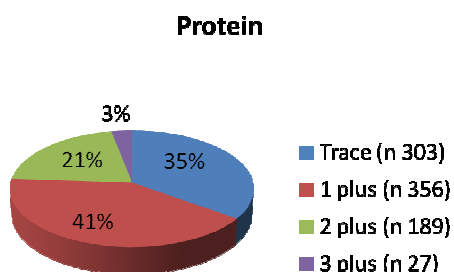
Results

- Urinalysis results were available for 1069 patients (90% of cohort)
- 920 (86%) had at least one abnormality on dipstick
- Of these, 722 (78%) had at least 1 additional laboratory test ordered (uPCR and/or MSU)



- Protein
- Blood
- Glucose
- Leukocytes
- Nitrites
- Urobilinogen
- Bilirubin
- Ketones

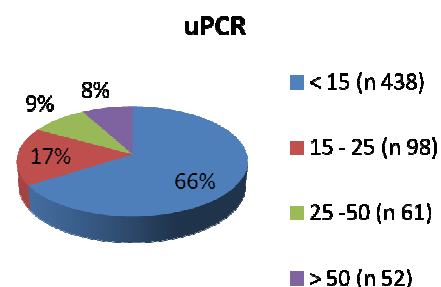
Results: Protein



- Protein was found in 875 (95%) of the abnormal samples
- 90% of the 1 abnormality group had protein on dipstick

Results: Protein

- uPCR was sent on 649 (74%) of the samples with protein
- 34% had a raised uPCR



uPCR >50 mg /mmol

- 38 (70%) had pre-existing medical condition
- 3 referred to renal clinic
- 4 had treatment changed (Tenofavir)

Results: Protein

- Comments :
 - Rates of protein on dipstick similar, whether patients were taking Tenofavir or not
 - However, patients on Tenofavir-containing regimens were more likely to have a uPCR sent than those on other regimens or not on ART (80% vs 63%)
 - It was observed that uPCR results did not always correlate with dipstick result

Results: infection

- MSU was requested on 135 samples (12%)
- 24 (18%) had a urinary tract infection
- An additional 11 samples had dipstick results which may indicate infection (leukocytes, nitrites) but no MSU sent
- Indication for MSU not always consistent or apparent

Results: glucose

- 28 (3%) of patients had glycosuria
- 21 were diabetic or renal patients
- 1 was subsequently diagnosed as diabetic
- 2 discontinued Tenofavir for suspected Franconi's Syndrome
- 4 were further investigated for renal toxicity / impairment

Findings

- Abnormalities on urine dipstick are common amongst our clinic cohort; however many are the result of pre-existing medical conditions
- Routine urinalysis contributed to the identification of infection, drug toxicity and morbidity in a number of patients
- Additional laboratory tests are ordered frequently
- Rationale for ordering / not ordering tests not always apparent or consistent
- Results of urinalysis do not always correlate with uPCR result

Recommendations

- To continue routine urinalysis in line with BHIVA guidelines but...
- Develop in-house guidance for nurses as to when to order additional tests, including considering uPCR / uACR at low levels of protein on dipstick in at-risk patients
- Provide education to support the decision-making process for interpreting results and ordering additional tests
- Repeat audit next year

Thank you

- Claire McCormick -Screening Nurse
- The nurses at the Courtyard Clinic for dipping all that wee!

