Session title: Innovations in clinical practice
Session date: Wednesday 27 June 2012; 11.45 am – 12.45 pm

01 RAPID AUTOMATED WHITE CELL URINALYSIS IS MORE ACCURATE THAN URETHRAL SMEAR FOR PREDICTING CHLAMYDIA INFECTION IN MEN

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Background The cut-off of ≥5 polymorphs/high power field (p/hpf) in a Gram stained male urethral smear (GSUS) for diagnosing non-gonococcal urethritis derives from evaluations using Chlamydia trachomatis (CT) culture as gold standard. There is also significant observer variation in performing microscopy.
Objective To compare automated flow cytometry of first void urine white cell count (FVU-UWC) to GSUS for prediction of CT infection in men.
Methods First void urines from 227 symptomatic male patients, all undergoing GSUS, were collected and patients stratified into: those treated for urethritis, diagnosed by GSUS result, history and examination (n=114) and; those not thought to have urethritis (n=113). First void urines were analysed by automated flow cytometry using the bench-top Sysmex UF-100 Analyser.
Results CT was found in 11.6% and 6.2% urethritis and non-urethritis patients respectively and gonorrhoea (GC) in 3.6% and 1.1% respectively. There was no difference in UWC between urethritis and non-urethritis (p=0.690) nor association between GSUS grade and UWC (p=0.933). Median GSUS was higher for CT positive compared to negative patients (≥5/hpf vs 0). UWC were higher in CT (p=0.001) and GC (p≤0.001) positives. ROC area under the curve (AUC) for predicting CT was 0.844 (p≤0.001) with an optimal cut-off of >29 UWC/µl giving sensitivity of 90% and specificity of 76%. For predicting CT in urethritis and non-urethritis: the positive predictive values using the >29 UWC/µl cut-off were 20% (95%CI 9.1% to 37.5%) and 34.4% (19.2% to 53.2%) and the negative predictive values NPVs 100% (94.2% to 100%) and 97.5% (90.4% to 99.6%) respectively; for GSUS, using ≥5/hpf, positive predictive values were 10.5% (5.4% to 18.9%) and 0% (0% to 60.4%) and negative predictive values were 82.4% (55.8% to 95.3%) and 93.6% (86.8% to 97.2%) respectively.
Conclusion UWC is (1) higher in CT and GC infection; (2) is a better predictor of urethral CT than GSUS and; (3) possibly more useful for determining non-gonococcal urethritis. Automated rapid flow cytometry may offer significantly improved utility over microscopy in the clinic.

02 WHO SHOULD HAVE GONORRHOEA CULTURES IN ADDITION TO GONORRHOEA AND CHLAMYDIA NUCLEIC ACID AMPLIFICATION TESTS? COST EFFECTIVENESS STUDY

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Background Nucleic acid amplification tests (NAATs) can now detect chlamydia (CT) and gonorrhoea (GC) but cultures are needed in GC NAAT positive people prior to treatment. This necessitates re-evaluation, examination and culture if cultures have not been taken initially.
Aim/Objective To discover if it is more cost-effective to perform a NAAT plus GC culture or just a NAAT followed by recall of GC positives for culture.
Methods 3973 women performed a self-taken vulvo-vaginal swab (VVS) then clinicians took urethral and endocervical samples for GC culture. The VVSs were analysed for GC/CT by Aptima Combo 2 (AC2). Cost effectiveness was analysed using incremental cost effectiveness ratios using correct detection of GC/CT as the primary endpoint. Costs were estimated from a sub-sample of 92 patients in July 2009 and included costs of clinic time and laboratory costs. Comparisons were made of GC cultures plus a CT NAAT vs VVSs analysed by AC2 in various subgroups.
Results VVS GC/CT NAAT with subsequent culture of GC positives was more cost-effective (8% cost-saving). The greatest saving was in women not requiring examination (37% cost saving). Cost of time taken explaining a self-taken swab was 11% of cost of examination. Savings also accrued by using AC2 rather than GC culture and CT NAAT. In contacts of GC, it was more cost-effective to include GC culture at first examination (15% cost saving).
Conclusions VVS analysed by AC2 for GC/CT is more cost-effective and detects more infections than GC culture plus CT NAAT. In women with no symptoms self-taken VVSs give cost savings of 37%. In women with symptoms VVSs remain cost-effective unless the prevalence of GC is above 10%. We would recommend including GC culture at first examination for women who are GC contacts (see abstract O2 table 1), those with pelvic inflammatory disease or cervicitis and in other circumstances where immediate antibiotic treatment is given.

Abstract O2 Table 1 Costs of different testing strategies in whole group and subgroups

Subgroup	Gonorrhoea prevalence	Total cost GC culture + CT NAAT	Total cost GC/CT NAAT and subsequent GC culture if GC +ve
All women n=3973	2.5%	£199 285.68	£182 769.12
Symptomatic for bacterial STI n=1677	3.4%	£84 118.32	£77 650.50
Asymptomatic for bacterial STI but requiring examination n=900	3.4%	£45 144.00	£41 625.49
Asymptomatic and not requiring examination n=1396	0.9%	£70 023.36	£44 230.22
GC contacts n=44	50%	£2940.52	£3382.06
Previous GC n=162	7%	£10 826.46	£10 365.43
Cervicitis n=218	10%	£14 568.94	£14 163.10
Pelvic inflammatory disease n=169	8.3%	£11 294.27	£10 888.58

03 GONORRHOEA TEST OF CURE: OUTCOMES IN A LARGE URBAN SEXUAL HEALTH SERVICE

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Background New British Association for Sexual Health and HIV guidelines for the management of gonorrhoea in adults were introduced in June 2011. First line therapy was changed to ceftriaxone 500 mg intramuscularly plus azithromycin 1 g orally, with a test of cure (TOC) recommended for all patients at 2 weeks. Our clinic policy changed to reflect these guidelines. TOC, previously performed in selected cases, was recommended in all cases.
Aims To identify the proportion of cases correctly treated following the change in guidelines and analyse TOC outcomes.
Methods A retrospective case notes review was carried out from 17 June to 22 November 2011. Diagnosis of gonorrhoea was from