

**Conclusion** The patient was treated with Imiquimod 5% cr. for 8 weeks with non significant results. A partial vulvectomy (willingness of the patient) was performed.

P2.56

# A REMINDER FROM THE GREAT IMITATOR – GUMMATOUS SYPHILIS OF THE NASAL CAVITY WITH SEPTAL PERFORATION

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10.1136/sextrans-2017-053264.232

**Introduction** Gummatous syphilis presenting as nasal septal perforation is well described in the classic literature, but rarely encountered in the current antibiotic era. We present a man with a destructive nasal process with a delayed diagnosis of tertiary (late benign) syphilis.

**Case Description** A 45 year old Eritrean gentleman presented with an ulcero-nodular lesion of the left nares, progressive over the previous six months. He denied trauma or illicit drug inhalation. Exam was remarkable for left nasal cavity with an eroding destructive lesion perforating through the nasal septum and left nasal ala. He had no clinical signs or symptoms of neurosyphilis. Multiple biopsies revealed acute-on-chronic inflammation with focal necrosis and no evidence of malignancy. Fungal, treponemal and routine bacterial stains were negative, and tissue cultures were negative. Imaging indicated no bony destruction. The patient was treated for presumed cellulitis with multiple courses of oral antibiotics (cephalexin, amoxicillin) with no improvement in symptoms. At follow up, the patient tested negative for human immunodeficiency virus (HIV) infection and negative for anti-neutrophil cytoplasmic antibodies (ANCA). Serologic tests for syphilis were ultimately performed, revealing a rapid plasma reagin (RPR) titer of 1:512 with a reactive fluorescent treponemal antibody absorption test (FTA-ABS). A CSF evaluation was normal, with no pleocytosis and normal protein and glucose. Treatment was initiated with benzathine penicillin G, three doses of 2.4 million units each at one-week intervals. Clinical response to treatment is pending at the time of this report.

**Discussion** Gummatous syphilis is of clinical importance because of its potential for local destruction and disfigurement of the nasal structures. Early recognition and management has important individual and public health implications and this case would remind contemporary physicians that “the great imitator” could lurk behind unusual presentations.

P2.57

# A CASE OF DIFFICULT DIAGNOSIS: NEUROSYPHILIS IN HIV INFECTED PATIENT

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10.1136/sextrans-2017-053264.233

**Introduction** It is known that HIV infected patients with syphilis are more prone to invasion of *T. pallidum* into central nervous system. Moreover, the diagnosis of neurosyphilis in HIV infected patients can be particularly difficult and

challenging since serological tests in the cerebrospinal fluid (CSF) can often be false negative.

**Case report** A previously healthy 40-year-old male was admitted to neurology department due to acute left side paresis, ataxia and diplopia. Since his head CT and CT-angiography scans were without pathological findings and his symptoms started recovering, he was treated conservatively. His symptoms worsened the next day and MR scan revealed right posterior pontine infarction. As part of routine screening for stroke in young patients, he was tested for HIV and syphilis. Serologic tests for syphilis were positive in serum as were screening and confirmatory tests for HIV infection. CD4+ cell count was 282/mm<sup>3</sup> and HIV RNA was 9480 copies/ml. CSF analysis showed elevated protein level (0.70 g/L) and lymphocytic pleocytosis (lymphocytes 30/mm<sup>3</sup>). CSF-RPR and CSF-TPHA were not reactive. However, because of strong clinical suspicion of meningovascular syphilis, additional serological tests for syphilis in CSF, i.e. CSF-IgG-FTA-ABS and CSF-LIA (Line Immuno Assay), were performed: both were positive. After the confirmation of suspected meningovascular syphilis, treatment with intravenous benzylpenicillin was given for 21 days. Neurological symptoms subsided and patient was discharged with minimal neurological sequelae.

**Conclusion** The correct diagnosis of neurosyphilis in HIV infected patients presents a challenge since serologic tests can be false negative. Therefore, different serologic tests with high specificity and sensitivity should be used, newer tests such as LIA and CIA being particularly helpful. Clinicians should be aware of the characteristics of syphilis and HIV coinfection to establish the correct diagnosis and provide adequate treatment, which will minimise neurological impairments among these patients.

LB 2.58

# DRUG RESISTANCE MUTATIONS IN HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (HIV-2) STRAINS FROM PATIENTS IN GHANA

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10.1136/sextrans-2017-053264.234

**Introduction** The Human Immunodeficiency virus (HIV) epidemic is characterised by the dominance of HIV type 1 (HIV-1) worldwide. Consequently, antiretroviral therapy (ART) and drug resistance studies have focused almost exclusively on HIV-1. In Ghana both HIV-1 and HIV-2 co-circulate with lack of data on HIV-2 drug resistance mutations. We sought to determine drug resistance mutations in HIV-2 patients in Ghana.

**Method** We used purposive sampling to collect blood from 16 consented patients confirmed as HIV-2 and dual HIV-1/2 by serology and molecular assays. Real-time RT-PCR assay was used to determine the viral load of patients by using an HIV-2 RNA International Standard from the National Institute for Biological Standards and Control (NIBSC). Nucleic acid (RNA and DNA) were extracted from plasma and peripheral blood mononuclear cells (PBMC) respectively. The reverse transcriptase (RT) and protease (PR) genes of HIV-2 were amplified

by PCR, sequenced and analysed for drug resistance mutations and subtype information.

**Results** HIV-2 RNA was detected in 7 of 10 ART-naïve and 2 of 6 ART-experienced patients. Detectable HIV-2 viral loads in these patients ranged from below the lower limit of quantification ( $<2.35$  log IU/ml) to 5.45 log IU/ml. One ART-experienced patient had M184V, K65R and Y115F mutations in RT sequences from both plasma and PBMC. There were no drug resistance mutations identified from ART-naïve samples.

**Conclusion** This is the first study in Ghana to show evidence of mutations in HIV-2 strains from patients receiving HIV-1 targeted antiretrovirals. The results prompt monitoring of drug resistance to improve clinical management of HIV-2 infected patients.

## LB 2.59 IMPROVING STD SCREENING IN HIV CARE THROUGH IMPLEMENTATION OF SELF-COLLECTED EXTRAGENITAL SWABS

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10.1136/sextrans-2017-053264.235

**Introduction** Screening for syphilis, gonorrhoea (GC) and chlamydia (CT) is recommended at least annually for HIV-positive men who have sex with men (MSM) in the United States (US). Recent analyses from the US Medical Monitoring Project demonstrate that STD screening of HIV-positive MSM remains far below that recommended by guidelines; specific data on extragenital GC/CT screening is not reported. We implemented a quality improvement intervention to improve STD screening (syphilis, GC/CT) in a large managed care organisation (16 centres) including didactic training and implementation of self-collected swabs for GC/CT.

**Methods** We analysed data from the Kaiser Permanente Northern California HIV Registry to calculate the proportion of MSM tested for syphilis and GC/CT (any site, rectal/pharyngeal site) at least once in the prior year. Laboratory validation of self-collected swabs was completed by 1/2014, rolled out at five centres by 12/2014, and 11 centres by 11/2016. **Screening data were finalised for analysis in 1/2017.** Three time periods were examined: baseline (6/2012), 1 year (11/2015), and 2 years (11/2016) post initial implementation of self-collection. Cochran-Armitage was used to test for trends.

**Results** During the study period, the denominator of eligible HIV-positive MSM increased from  $n=4499$  to 5866. Annual screening for GC/CT (any site) significantly increased from 45.2% to 58.3% ( $p_{\text{trend}} < 0.0001$ ); extragenital GC/CT (among those screened) increased from 48.4% to 58.1% ( $p_{\text{trend}} < 0.0001$ ). Medical centres that implemented self-collected swabs within the first year reported higher extragenital screening rates than those who did not (60.6% vs 20.2%,  $p < 0.0001$ ), this difference persisted into year 2. Syphilis screening also increased from 73.6% to 76.8% ( $p_{\text{trend}} = 0.0002$ ).

**Conclusion** Implementation of self-collected GC/CT swabs is an effective intervention to increase STD screening among MSM in a large US managed care organisation. This

intervention should be disseminated to other settings to improve currently suboptimal STD screening rates among MSM.

## LB2.60 FIELD EVALUATION OF A NOVEL DUAL HIV/SYPHILIS RAPID TEST – MALAWI, 2014–2015

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10.1136/sextrans-2017-053264.236

**Introduction** Dual HIV/syphilis rapid diagnostic tests (RDTs) may prevent congenital syphilis by facilitating syphilis diagnosis in pregnant women receiving HIV testing. The dual HIV-1/2 treponemal syphilis RDT (*ChemBio DPP HIV-Syphilis Assay*) performs well in the lab, but its field performance is unknown. We investigated test performance under field conditions for this dual RDT and Malawi's single RDTs for HIV and syphilis to assess whether the dual RDT might be a suitable substitute for the first-line single RDT in Malawi's HIV algorithm.

**Methods** During Jul 2014–Nov 2015, 1798 pregnant women attending a first antenatal visit were recruited if their HIV status was negative or unknown. Women received the single HIV (Determine HIV-1/2) and syphilis (Determine Syphilis TP) RDTs and the dual RDT. By Dec 2016, CDC had performed Rapid Plasma Reagin (RPR), *Treponema pallidum* particle agglutination (TPPA), and 3<sup>rd</sup>-generation HIV EIA testing with Western Blot confirmation. In Jan 2017, the validity of all RDTs relative to the CDC HIV algorithm, TPPA, and TPPA/RPR results were calculated.

**Results** Of 1791 women (99.6%) with complete results, 258 (14.4%) were HIV-positive by CDC's algorithm; 81 (4.5%) were TPPA+; and 46 (2.6%) were TPPA+/RPR+. The dual RDT was 95.0% sensitive and 96.0% specific for HIV; the single HIV RDT was 93.0% sensitive and 99.3% specific. HIV test specificities were significantly different ( $p < 0.01$ ). Both dual and single HIV RDTs were 96.9% sensitive during repeat lab testing. Using TPPA+ as the standard, the dual RDT was 69.1% sensitive and 99.8% specific for syphilis; the single syphilis RDT was 63.0% sensitive and 99.8% specific. Among women most likely to vertically transmit syphilis (TPPA+/RPR+, titer  $\geq 1:4$ ), the dual and single RDTs were 100.0% and 88.2% sensitive, respectively.

**Conclusion** The dual RDT syphilis component performed comparably to the single syphilis RDT and performed very well among women likely to vertically transmit syphilis. The dual RDT HIV component had comparable sensitivity but lower specificity than the single HIV RDT.

## LB2.61 NEAR FULL LENGTH DEEP SEQUENCING OF NEWLY ACQUIRED HIV INFECTIONS IN SAN FRANCISCO

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10.1136/sextrans-2017-053264.237