

sis of VL in Sudan. A total of 198 VL suspects were tested by microscopy of lymph node aspirates (the reference test), direct agglutination test-DAT (in house production) and rK28 antigen-based rapid diagnostic test (OnSite Leishmania rK39-Plus, CTK Biotech, USA). LAMP was performed on peripheral blood (whole blood and buffy coat) previously processed by: i) a direct boil and spin method, and ii) the QIAamp DNA Mini Kit (QIAGEN). Ninety seven of the VL suspects were confirmed as cases by microscopy of lymph node aspirates. The sensitivity and specificity for each of the tests were: rK28 RDT 98.81% and 100%; DAT 88.10% and 78.22%; LAMP-boil and spin 97.65% and 99.01%; LAMP-QIAGEN 100% and 99.01%.

Conclusions/Significance: The excellent performance of LAMP using peripheral blood indicates that it can be included in the algorithm for diagnosis of VL, avoiding the need for invasive lymph node aspiration. The simplicity of the test makes it a promising candidate for confirmatory diagnosis in settings that are lower than the reference laboratory.

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Prediction and validation of the structural features of Ov58GPCR, an immunogenic antigen of *Onchocerca volvulus*: implications in onchocerciasis control efforts



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Onchocerciasis is a severely debilitating yet neglected tropical disease (NTD) that creates social stigma, generates and perpetuates poverty, and leads ultimately to irreversible unilateral or bilateral blindness if untreated. Consequently, the disease is a major impediment to socioeconomic development. Many control programs have been launched for the disease with moderate successes achieved. This mitigated hit is partially due to the lingering need for reliable, non-invasive and easily-applicable tools for mapping endemic regions and post-elimination surveillance. In this work, bioinformatics analyses combined with immunological assays were applied in a bid to develop potential tools for diagnosis and assessing the success of drug treatment programs. Comparisons of more than two groups in case of paired data were made using repeated measures ANOVA on ranks. The diagnostic performance of the total IgG was assessed for each study peptide using receiver operating curve (ROC) analyses. We report that (i) the *O. volvulus* antigen, Ov58GPCR is a G-protein coupled receptor (GPCR) conserved in related nematodes, (ii) synthetic peptides predicted to be in the extracellular domain (ECD) of Ov58GPCR are indeed immunogenic epitopes in patients, (iii) synthetic peptide cocktails discriminate between untreated patients, treated patients and healthy African controls, (iv) polyclonal antibodies against one of the peptides or against the bacterially-expressed ECD reacted specifically with the native antigen in *O. volvulus* total and surface extracts, (v) Ov58GPCR is transcribed in both the larvae and adult parasite stages, (vi) IgG and IgE responses to recombinant the ECD decline with Ivermectin treatment compliance. All these findings suggest that the extracellular domain and synthetic peptides of Ov58GPCR and the specific immune response it generated could be harnessed for use in the context of diagnosis and surveillance for the disease.

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Under your skin: An Atypical Mycobacterium Infection



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Introduction: A 47 year old male from Dubai with a PMH of ESRD on dialysis presented to the Emergency Department with left eye blindness and diffuse, tender subcutaneous nodules one month after being appropriately treated for a dialysis-line associated blood stream infection.

Methods: Upon gathering further history, he worked as an administrator at a Seaport in Dubai. He had no recent travel history. He was in a monogamous relationship with his wife of 20 years. He did not use IV drugs. Initial concern was for recurrence of his dialysis line-associated blood stream infection with subsequent endocarditis. Blood cultures were drawn, broad spectrum antibiotics were started, and a trans-esophageal echocardiogram were obtained in addition to basic blood work. His CBC showed no signs of infection with a normal white blood cell count. Trans-esophageal echocardiogram showed no evidence of thrombus, and blood cultures remained negative. HIV, hepatitis B and C, and tuberculosis testing were all negative as well. Leukemia and lymphoma phenotyping showed no evidence of a hematologic malignancy. A skin biopsy was ultimately done, revealing an infection with mycobacterium abscessus.

Conclusions: Mycobacterium abscessus is a rare, rapidly growing mycobacterial infection. It most commonly causes pulmonary infections, but can also manifest as a skin infection, particularly in disseminated disease. It typically is found in immunocompromised individuals. Our patient was started on broad coverage with amikacin, cefoxitin, and clarithromycin. Over the next several weeks, he had gradual improvement in the skin disease. Further workup showed a lymphopenia with a CD4 count of 198. No clear cause has yet been identified for his lymphopenia, but further investigations are still ongoing.

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Serious infections by the intracellular bacterial pathogens *Legionella*, *Listeria*, and *Salmonella* in patients receiving anti-TNF therapy



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Anti-TNF agents are widely used in inflammatory diseases and have been associated with serious intracellular infections. This study is aimed at characterising the clinical presentation, analysing the treatment options, and assessing the different outcomes of infections by the intracellular bacteria *Legionella*, *Listeria*, and *Salmonella* in patients treated with anti-TNFs.

PubMed was used to search for peer-reviewed papers of relevance. This study found 70 papers which fulfilled the criteria, in which 31 cases of serious infection by *Legionella*, 57 cases of serious infection by *Listeria*, and 16 cases of serious infection by *Salmonella* were described.

The overwhelming majority of the patients taking anti-TNFs with serious infection were also receiving concomitant immunosuppressive drugs, especially steroids. The typical patient is a male in his 50s, suffering from RA, and taking Infliximab. All of the patients infected with *Legionella* had pneumonia and were treated with either a quinolone, or a macrolide, or a combination involving at least one of them. The majority of patients infected with *Listeria* had bacteremia and/ or meningitis and/ or CNS involvement; they were mainly treated with ampicillin +/-