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Intimate partner violence as seen in post-conflict eastern Uganda: prevalence, risk factors and mental health consequences.

Kinyanda E, Weiss HA, Mungherera M, Onyango-Mangen P, Ngabirano E, Kajungu R, Kagugube J, Muhwezi W, Muron J, Patel V. *BMC Int Health Hum Rights. 2016 Jan 29;16(1):5.*

BACKGROUND:
Conflict and post-conflict communities in sub-Saharan Africa have a high under recognised problem of intimate partner violence (IPV). Part of the reason for this has been the limited data on IPV from conflict affected sub-Saharan Africa. This paper reports on
the prevalence,risk factors and mental health consequences of IPV victimisation in both gender as seen in post-conflict eastern Uganda.

METHODS:
A cross-sectional survey was carried out in two districts of eastern Uganda. The primary outcome of IPV victimisation was assessed using a modified Intimate Partner Violence assessment questionnaire of the American Congress of Obstetricians and Gynaecologists.

RESULTS:
The prevalence of any form of IPV victimisation (physical and/or sexual and/or psychological IPV) in this study was 43.7 % [95 % CI, 40.1-47.4 %], with no statistically significant difference between the two gender. The factors significantly associated with IPV victimisation were: sub-county (representing ecological factors), poverty, use of alcohol, and physical and sexual war torture experiences.
The mental health problems associated with IPV victimisation were probable problem alcohol drinking, attempted suicide and probable major depressive disorder.

CONCLUSION:
In post-conflict eastern Uganda, in both gender, war torture was a risk factor for IPV victimisation and IPV victimisation was associated with mental health problems.

Adjunctive Dexamethasone in HIV-Associated Cryptococcal Meningitis.

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BACKGROUND
Cryptococcal meningitis associated with human immunodeficiency virus (HIV) infection causes more than 600,000 deaths each year worldwide. Treatment has changed little in 20 years, and there are no imminent new anticryptococcal agents. The use of adjuvant glucocorticoids reduces mortality among patients with other forms of meningitis in some populations, but their use is untested in patients with cryptococcal meningitis.

METHODS

In this double-blind, randomized, placebo-controlled trial, we recruited adult patients with HIV-associated cryptococcal meningitis in Vietnam, Thailand, Indonesia, Laos, Uganda, and Malawi. All the patients received either dexamethasone or placebo for 6 weeks, along with combination antifungal therapy with amphotericin B and fluconazole.

RESULTS

The trial was stopped for safety reasons after the enrollment of 451 patients. Mortality was 47% in the dexamethasone group and 41% in the placebo group by 10 weeks (hazard ratio in the dexamethasone group, 1.11; 95% confidence interval [CI], 0.84 to 1.47; P = 0.45) and 57% and 49%, respectively, by 6 months (hazard ratio, 1.18; 95% CI, 0.91 to 1.53; P = 0.20). The percentage of patients with disability at 10 weeks was higher in the dexamethasone group than in the placebo group, with 13% versus 25% having a prespecified good outcome (odds ratio, 0.42; 95% CI, 0.25 to 0.69; P<0.001). Clinical adverse events were more common in the dexamethasone group than in the placebo group (667 vs. 494 events, P = 0.01), with more patients in the dexamethasone group having grade 3 or 4 infection (48 vs. 25 patients, P = 0.003), renal events (22 vs. 7, P = 0.004), and cardiac events (8 vs. 0, P = 0.004). Fungal clearance in cerebrospinal fluid was slower in the dexamethasone group. Results were consistent across Asian and African sites.

CONCLUSIONS

Dexamethasone did not reduce mortality among patients with HIV-associated cryptococcal meningitis and was associated with more adverse events and disability than was placebo. (Funded by the United Kingdom Department for International Development and others through the Joint Global Health Trials program; Current Controlled Trials number, ISRCTN59144167.)

Effect of Schistosoma mansoni infection on innate and HIV-1 specific T cell immune responses in HIV-1 infected Ugandan fisher folk

Obuku AE, Asiki G, Abaasa A, Ssonko I, Harari A, van Dam GJ, Corstjens PL, Joloba M, Ding S, Mpendo J, Nielsen L, Kamali A, Elliott AM,Pantaleo G, Kaleebu P, Pala P. *AIDS Res Hum Retroviruses. 2016 Feb 10. [Epub ahead of print]*

In Uganda, fisher folk have HIV prevalence rates about 4 times higher than the national average and are often co-infected with S. mansoni. We hypothesized that innate immune responses and HIV specific Th1 immune responses might be downmodulated in HIV/S. mansoni co-infectedindividuals compared to HIV+ /S. mansoni negative individuals. We stimulated whole blood with innate receptor agonists and analysed supernatant cytokines by Luminex. We evaluated HIV-specific responses by intracellular cytokine staining for IFN-γ, IL-2 and TNF-α. We found that the plasma viral load and CD4 count was similar between the HIV+SM+ and HIV+SM- individuals. In addition, the TNF-α response to the imidazolequinoline compound CL097 and β-1, 3-glucan curdlan, was significantly higher in HIV/S. mansoni co-infected individuals compared to HIV only infectedindividuals. The frequency of HIV specific IFN-γ+IL-2-TNF-α- CD8 T cells and IFN-γ+IL-2-TNF-α+ CD4 T-cells was significantly higher in HIV/S.mansoni co-infected individuals compared to HIV only infected individuals. These findings do not support the hypothesis that S. mansoni down-modulates innate or HIV specific Th1 responses in HIV/S. mansoni co-infected individuals.

Effect of isoniazid preventive therapy on immune responses to mycobacterium tuberculosis: an open label randomised, controlled, exploratory study.

Biraro IA, Egesa M, Kimuda S, Smith SG, Toulza F, Levin J, Joloba M, Katamba A, Cose S, Dockrell HM, Elliott AM. *BMC Infect Dis. 2015 Oct 22;15:438. doi: 10.1186/s12879-015-1201-8.*

BACKGROUND

With the renewed emphasis to implement isoniazid preventive therapy (IPT) in Sub-Saharan Africa, we investigated the effect of IPT on immunological profiles among household contacts with latent tuberculosis.

METHODS:

Household contacts of confirmed tuberculosis patients were tested for latent tuberculosis using the QuantiFERON®-TB Gold In-Tube (QFN) assay and tuberculin skin test (TST). HIV negative contacts aged above 5 years, positive to both QFN and TST, were randomly assigned to IPT and monthly visits or monthly visits only. QFN culture supernatants from enrolment and six months' follow-up were analysed for M.tb-specific Th1, Th2, Th17, and regulatory cytokines by Luminex assay, and for M.tb-specific IgG antibody concentrations by ELISA. Effects of IPT were assessed as the net cytokine and antibody production at the end of six months.

RESULTS:

Sixteen percent of contacts investigated (47/291) were randomised to IPT (n = 24) or no IPT (n = 23). After adjusting for baseline cytokine or antibody responses, and for presence of a BCG scar, IPT (compared to no IPT) resulted in a relative decline in M.tb-specific production of IFN gamma (adjusted mean difference at the end of six months (bootstrap 95% confidence interval (CI), p-value) -1488.6 pg/ml ((-2682.5, -294.8), p = 0.01), and IL- 2 (-213.1 pg/ml (-419.2, -7.0), p = 0.04). A similar decline was found in anti-CFP-10 antibody levels (adjusted geometric mean ratio (bootstrap 95% CI), p-value) 0.58 ((0.35, 0.98), p = 0.04). We found no effect on M.tb-specific Th2 or regulatory or Th17 cytokine responses, or on antibody concentrations to PPD and ESAT-6.

CONCLUSIONS:

IPT led to a decrease in Th1 cytokine production, and also in the anti CFP-10 antibody concentration. This could be secondary to a reduction in mycobacterial burden or as a possible direct effect of isoniazid induced T cell apoptosis, and may have implications for protective immunity following IPT in tuberculosis-endemic countries.

Tackling neglect: treating schistosomiasis during pregnancy

Luty AJ, Elliott AM. *Lancet Infect Dis. 2016 Feb;16(2):137-9. doi: 10.1016/S1473-3099(15)00379-5. Epub 2015 Nov 4*

Schistosomiasis is a major neglected tropical disease caused by blood flukes of the genus*Schistosoma* and transmitted through intermediate snail hosts. It affects African, Asian, and South American populations, often in remote communities, such as fishing villages accessed only by water.[1] Among these neglected communities, women of reproductive age (and their unborn children) have been further neglected due to recommendations that praziquantel treatment be avoided during pregnancy and lactation.

Immunology in Africa

Cose S, Bagaya B, Nerima B, Joloba M, Kambugu A, Tweyongyere R, Dunne DW, Mbidde E, Kaleebu P, Elliott AM. *Tropical Medicine & International Health Volume 20, Issue 12, pages 1771-1777, December 2015. DOI.10.1111/tmi.12599*

Africa is a continent with a large burden of both infectious and non-communicable diseases. If we are to move forward as a continent, we need to equip our growing cadre of exceptional young scientists with the skills needed to tackle the diseases endemic to this continent. For this, immunology is among the key disciplines. Africans should be empowered to study and understand the diseases that affect them, and to perform their cutting- edge research in their country of origin. This requires a multifaceted approach, with buy-in from funders, overseas partners and perhaps, most important of all, African governments themselves.