

# 3<sup>rd</sup> International Conference and Exhibition on Clinical & Cellular Immunology

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## Immunology and sleep

Lourdes DelRosso

The Children's Hospital of Philadelphia, USA

The relationship between sleep and immunity has been well established. Cytokines have been demonstrated to both promote and inhibit REM sleep, hence viral and bacterial infections have different effects on our sleep patterns through immune related mechanisms. Sleep deprivation has been shown to affect immunity through altering the ratio of interleukin-6 and C-reactive protein (CRP); sleep excess has also been shown to elevate levels of CRP with concomitant increased risks in cardiovascular disease and diabetes. Interleukin-4 and tumor necrosis factor alpha have been found to be elevated in obstructive sleep apnea (OSA), while interleukin-10 is decreased. These changes have been hypothesized to play an intrinsic role in the pathophysiology of excessive sleepiness found in patients with OSA. Narcolepsy is another sleep disorder with significant immune pathophysiology. There is a strong association between narcolepsy and HLA DQB1\*0602. Molecular mimicry, an immune response reaction, has been implicated in the cases of H1N1 vaccine -related narcolepsy. Other sleep disorders like insomnia and restless leg syndrome have also been linked to immune conditions. This presentation is intended to review the immune changes in sleep deprivation and the immunology related findings in the most common sleep disorders: OSA, narcolepsy, restless leg syndrome and insomnia.

## Biography

Lourdes DelRosso completed her MD degree from University of Miami. She moved to California where she completed her Family Medicine Residency at Kaiser Permanente, a program affiliated to University of California Irvine. After 7 years in practice, she moved to Louisiana to train in sleep medicine under the direction of Dr. Andrew L. Chesson Jr. She joined the faculty at Louisiana State University School of Medicine. Since then she has published about 20 publications in reputed journals. She joined the Sleep Center at The Children's Hospital Of Philadelphia in November 2013.

[lordydel@yahoo.com](mailto:lordydel@yahoo.com)

## Incidence and predictors of tuberculosis among adult people living with human immunodeficiency virus at the University of Gondar Referral Hospital, Northwest Ethiopia

Kefyalew Addis Alene, Ansha Nega and Belay New Wasie Taye

University of Gondar, Ethiopia

**Background:** Tuberculosis (TB) is the leading killer of people living with HIV (PLHIV). Many of these deaths occur in developing countries. This study aimed at determining the incidence and predictors of tuberculosis among PLHIV.

**Methods:** A five year retrospective follow up study was conducted among adult PLHIV. The Cox proportional hazards model was used to identify predictors.

**Results:** A total of 470 patients were followed and produced 1724.13 Person-Years (PY) of observation, and 136 new TB cases occurred during the follow up period. The overall incidence density of TB was 7.88 per 100 PY. It was high (95.9/100PY) in the first year of enrolment. The cumulative proportion of TB- free survivals was 79% and 67% at the end of the first and fifth years, respectively. Baseline WHO clinical stage III (AHR =2.88, 95% CI =1.53-5.43), WHO clinical stage IV (AHR =3.82, 95% CI =1.86-7.85), CD4 count <50 cell/ul (AHR =2.13, 95% CI =1.28-3.53) and ambulatory or bed ridden functional status (AHR =1.64, 95%CI =1.13-2.38) were predictors of time to TB occurrence.

**Conclusions:** TB incidence rate among PLHIV, especially in the first year of enrollment was high. Advanced WHO clinical stage, limited functional status, and low CD4 count (<50 cell cell/ul) were found to be the independent predictors of TB occurrence. Early care seeking and initiation of HAART to improve the CD4 count and functional status are important to reduce the risk of TB infection.

[kefadis@gmail.com](mailto:kefadis@gmail.com)