## OP 2

## Seroprevalance of dengue viral infections and serotype specific t cell responses in healthy individuals in Colombo, Sri lanka

Chandima Jeewandara [1] , Gathsaurie Neelika Malavige [1] ,Vathsala Jayasuriya [1] , M.H.J.D. Ariyaratne [1] , Mallika Peellawate [1] , Graham S. Ogg [2]
[1] Faculty of Medical Sciences, University of Sri Jayawardanapura, [2] MRC Human Immunology Unit, Weatherall Institute of Molecular Medicine, Oxford

**Objective:** Although dengue viral infections cause dengue haemorrhagic fever and fatalities in some individuals, it is a mild /asymptomatic infection in the majority of infected individuals. Therefore, we set out to determine silent dengue transmission in the community.

**Methods*:*** 236 healthy individuals aged 5-80 years recruited from community to test the presence of anti-dengue virus(DV)antibodies. *Ex vivo* and cultured ELISpot assays for serotype specific (SS)DV peptides, DEN3 NS3 and non-dengue viral peptides were done in 47/263 individuals. Cultured ELISpots for SS responses done in 3 individuals < 20 years, in 20 for 20-40years age and in 24 aged >40years.

**Results:** The seropositivity rates for DV-specific antibodies were 40%,62.5%,100% at 10,20,40 years of age respectively. A significant(p=0.001) and positive correlation observed with age and DV- seropositivity (Spearman r =0.8365,95%CI 0.55-0.95). SS T cell responses detected in all seropositive individuals(n=44) but absent in all dengue seronegative (n=3) individuals.
SS responses seen in only 1 person of the <20 age group who responded to SS peptides of DEN-2. 3/20(25%), 6/20(40%), 3/20(25%) and 5/20(30%) of individuals between 2-40 years responded to at least one SS peptide of DEN-1, DEN-2, DEN3 and DEN-4 peptides respectively. 12/24(50%), 5/24(33%), 12/24(50%) and 6/24(25%) of individuals aged >40 years responded to at least one SS peptide of DEN-1, DEN-2, DEN-3 and DEN-4 peptides respectively.

**Conclusions:** Seropositivity rates to the DV significantly rises with age, almost 100% at 40 years of age. The SS T cell responses to DEN-1 and DEN-3 SS peptides were more frequent aged >40 years.