|  |
| --- |
| **Interpretation of Lung Restriction in Patients with SE Asian Ancestry** |
| *Harriet J Caterson*1*, Claire N Doughty1, Ryan G Wallis1, Fei Ni Hau1, Gregory G King1,2,3, David G Chapman1,2,4* |
| *1Respiratory Investigation Unit, Royal North Shore Hospital, NSW, Australia*  *2Woolcock Institute of Medical Research, Macquarie University, NSW, Australia*  *3 Northern Clinical School, University of Sydney, NSW, Australia*  *4School of Life Sciences, University of Technology Sydney, NSW, Australia* |
| **Introduction/Aim:** Interpretation of restriction in people of SE Asian ancestry is complicated by lung volume predictive equations based on a Caucasian-only population. Therefore, we aimed to compare the association of lung function defined restriction with pathological and functional outcomes of restrictive lung disease between SE Asian Spirometry, Race-Neutral Spirometry and Caucasian Lung Volume predictive equations.  **Method:** Computed Tomography and X-ray reports, spirometry and body plethysmography were retrospectively analysed from 118 patients who self-identified as SE Asian ancestry. A subset of 36 patients had Six Minute Walk Test (6MWT) data. Spirometry was compared against race-neutral and SE Asian prediction equations. Restriction on lung function was defined as FVC or TLC z-score < -1.64. 6MWT distance (6MWD) < 80% predicted was defined as abnormal. Odds ratios (OR) were calculated using Fisher’s Exact Tests (\* = p < 0.05).  **Results:** Data were obtained from 118 patients(61% female; age range 20-80 years). 27/118 patients had fibrosis and 4/36 had reduced 6MWD. Using SE Asian predicteds, 8/27 with fibrosis were restricted and 18/91 without fibrosis were restricted (OR = 1.7, p = 0.3). Using race-neutral predicteds, 11/27 with fibrosis were restricted and 22/91 without fibrosis were restricted (OR = 2.16, p = 0.14). Using TLC, 14/27 with fibrosis were restricted and 23/91 without fibrosis were restricted (OR = 3.2, p = 0.02). Using SE Asian predicteds, 3/4 with reduced 6MWT were restricted and 7/32 normal 6MWD were restricted (OR = 10.7, p = 0.06). Using race-neutral predicteds, 3/4 with reduced 6MWD were restricted and 9/32 normal 6MWD were restricted (OR = 7.7, p = 0.10). Using TLC, 4/4 with reduced 6MWD were restricted and 13/32 with normal 6MWD fibrosis were restricted (OR = infinity, p = 0.04).  **Conclusion:** This suggests that a reduced TLC better represents functional and pathological consequences of restrictive lung disease in a SE Asian population.  **Key Words:** race, pulmonary function interpretation, restriction, interstitial lung disease  **Grant Support: Nil** |