

# European Respiratory Society Annual Congress 2012

Abstract Number: 1401

Publication Number: P2573

**Abstract Group:** 10.2. Tuberculosis

**Keyword 1:** Tuberculosis - mechanism **Keyword 2:** Immunology **Keyword 3:** Biomarkers

**Title:** Serum level of vitamin D3 before and after treatment in pulmonary tuberculosis

Prof. Young-Jae 11479 Cho lungdrcho@gmail.com MD <sup>1</sup>, Prof. Hyo-Jeong 11481 Lim limhyojeong@snu.ac.kr MD <sup>1</sup>, Prof. Jong Sun 11600 Park parkjs@snu.ac.kr MD <sup>1</sup>, Prof. Ho Il 11601 Yoon dextro@snu.ac.kr MD <sup>1</sup>, Prof. Choon-Taek 11602 Lee ctlee@snu.ac.kr MD <sup>1</sup>, Prof. Junghan 11626 Song songjhcp@snu.ac.kr MD <sup>2</sup> and Prof. Jae Ho 11639 Lee jhlee7@snu.ac.kr MD <sup>1</sup>. <sup>1</sup> Internal Medicine, Seoul National University Bundang Hospital, Seongnam, Korea, 463-707 and <sup>2</sup> Laboratory Medicine, Seoul National University Bundang Hospital, Seongnam, Korea, 463-707 .

**Body:** Vitamin D3 is known to have potent immunomodulatory effect and it has been suggested that the low serum level of vitamin D3 increases the risk of tuberculosis. Serum levels of 25 hydroxyvitamin D3 (25HD3) were measured in 168 drug sensitive pulmonary tuberculosis (PTB) before and about 6 months after the treatment by using high performance liquid chromatography, and were compared with those of 197 healthy normal controls (HNC). Deficiency of vitamin D was defined by the serum level below 15 ng/mL of 25HD3. The sputum AFB smear grade was quantified from 1 to 4 according to ATS criteria. Heavy AFB smear was defined as 3 and 4 grades. The mean level of 25HD3 in PTB before treatment was significantly low compared with HNC ( $18.7 \pm 8.33$  vs.  $13.13 \pm 8.6$  pg/mL,  $p < 0.05$ ). The mean level of 25HD3 in PTB after treatment was also significantly low compared with HNC, but did not show difference compared with the level before treatment. The numbers of vitamin D deficiency before treatment were significantly higher in the PTB compared with HNC, and the numbers did not show significant change after treatment. The numbers of heavy AFB smear were also significantly higher in the vitamin D deficiency patients in the PTB ( $p < 0.05$ ). These results strongly suggest that vitamin D deficiency increases the risk of tuberculosis, and is related with more severe form of PTB.