P90 JAPANESE INDIUM COHORT STUDY: 5-YEAR FOLLOW-UP

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Objectives Since the demand for manufacturing flat panel display expands, we are ongoing an indium cohort study and followed up 104 indium exposed workers for 5 years to assess the changes on lung parameters.

Methods Follow-up rate is 66.2% (104/157). According to BEI by the Japan Society for Occupational Health, workers with indium in serum (In-S, ng/ml) < 3 and with In-S ≥ 3 at a baseline study were defined as lower (n=53) and higher (n=51) exposure workers. Interstitial pneumonia biomarkers (KL-6, SP-D) and spirometry were examined for assessing the effects on the lung. Some potential confounders were also checked.

Results During the follow-up, intensive efforts for improvement of working environments were made in all 7 factories. In

higher exposure workers, geometric means (GM) of In-S, KL-6 (U/ml), SP-D (ng/ml), %FVC (%),and FEV1/FVC (%) significantly decreased from 13.7 to 9.33 (p<0.001), from 702 to 422 (p<0.001), from 90.0 to 57.7 (p<0.001), from 96.7 to 94.7 (p=0.047), from 82.3 to 81.0 (p=0.020), respectively. Prevalence exceeding the reference values of KL-6 and SP-D significantly reduced from 62.7% and 37.3% to 27.5% and 19.6%, respectively. However, prevalence of %FVC and FEV1/FVC was from 14.3% to 8.2% (p=0.375) and from 4.1% to 6.1% (p=1.000), respectively. During the 5-year-follow-up, 1 lung and 1 renal cancer were disclosed.
Conclusions It is difficult to judge the discrepancy between prevalence and GM of %FVC and FEV1/FVC. Longer follow-up is necessary.