

145-P A NEW METHOD TO AID IN EVALUATION OF PATIENTS WITH LUNG CANCER BEFORE LUNG RESECTION SURGERY- PRELIMINARY STUDY

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Background: For evaluation of patients intended to go through lung resection it is recommended to calculate the predicted post operative lung function by utilizing regional assessment of a perfusion scan. In our study we aimed to evaluate a potential replacement for the perfusion scan, the VRIXP O-Plan (Deep Breeze, Or-Akiva, Israel), which calculates the regional breath sounds intensity of the patient lungs.

Methods: 12 patients (mean \pm std age 60 ± 11) with lung cancer, who are intended to go through lung resection surgery, were referred for VRIXP and standard evaluations and were enrolled in the study. All patients had Perfusion scans and 5 had lung function results 1 month after the surgery. Patients were recorded with the VRIXP at baseline (pre operative). VRIXP regional quantitative values and pre operative FEV1 values were used to calculate the FEV1 ppo.

Results: The average \pm std of FEV1 ppo (%) were $57\% \pm 13\%$ and $50\% \pm 13\%$ by the Q-scan and VRI respectively. In similar, the average \pm std of FEV1 ppo (L) were 1.7 ± 0.5 and 1.5 ± 0.4 liters. High correlation between the VRIxp O-Plan and Q-scan for the calculation of %predicted FEV1 ppo (%) ($R=0.9376$) and FEV1 ppo (L) ($R=0.9629$). A total of 9 cases (75%) had differences less than 10%. Five patients arrived already for 1 month post-operative follow-up. Their FEV1(%) were $49\% \pm 10\%$, $54\% \pm 8\%$ and $49\% \pm 14\%$ for FEV1 ppo (VRI), FEV1 ppo (Perfusion), and Actual post-op values. In similar, for FEV-1(L), the values were $1.3 \pm 0.2L$, $1.4 \pm 0.2L$ and $1.2 \pm 0.1L$.

Conclusions: Initial results suggest that VRIxp based predictions are very similar to Q-scan calculations and are accurate in predicting the actual postoperative results.
