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Introduction & Objectives: We aimed to look for any potential role of qualitative interferon- γ release assay T-spot in predicting response to intracavitary BCG treatment in small cohort as a preliminary study.

Materials & Methods: Patients with high risk non-muscle invasive bladder cancer and with ongoing/completed or non-responsive intracavitary BCG treatments were recruited from database retrospectively and were tested with qualitative interferon- γ release assay T-spot.

Results: A total of 42 patients with high risk non-muscle invasive bladder cancer and with on-going/completed or non-responsive intracavitary BCG treatments accepted to participate in the study. Twenty five of them were responsive to intracavitary BCG treatments whereas 17 of them were not. 93% were male and the median age 67 years (37-89). 83,3% of them had history of cigarette smoking. Half of the patients were pTa stage and rest were pT1 stage. 19% were low grade and 81% were high grade. Half of the patients had concurrent CIS. 69% of the patients were primary bladder cancer whereas 31% were recurrent prior to the intracavitary BCG treatment. Median completed cystoscopy follow-up period after induction intracavitary BCG treatment was 18 months (3-24). Median period of recurrence indicative of BCG unresponsiveness was 6 months (3-24). BCG unresponsiveness rates were 62% and 19% for stages pT1 and pTa respectively ($p=0,005$). In patients with concurrent CIS BCG unresponsiveness rate was 62% whereas it was 19% in patients lacking CIS. In 88% of intracavitary BCG responsive patients and in 72% of intracavitary BCG unresponsive patients T spot test was positive ($p=0,220$). However, when sub test antigens namely CFP-10 and ESAT-6 antigen positivity were evaluated separately CFP-10 positivity tended to be higher in BCG unresponsive group (88% versus 36% ; $p=0,001$). Likewise, Spearman correlation showed a moderate negative correlation between BCG responsiveness and CFP-10 antigen positivity (Spearman correlation coefficient: $-0,506$ $p=0,001$).

Conclusions: CFP-10 positivity in qualitative interferon- γ release assay T-spot test may be a marker for predicting intracavitary BCG responsiveness in bladder cancer.