Kim D et al. Prolactin ≤1 ng/mL predicts macroprolactinoma reduction after cabergoline therapy. Eur J Endocrinol. 2020;182(2):177-183. doi: 10.1530/EJE-19-0753.

OBJECTIVE: The association between prolactin level variation and prolactinoma size reduction remains unclear. This study aimed to determine the prolactin level cut-off predictive of a tumor size reduction.
DESIGN: Retrospective cohort study.
METHODS: We reviewed medical records of patients with prolactinoma who received primary cabergoline therapy and for whom complete data on pituitary hormone assays and sellar MRI at baseline and 3 months post treatment were available. We tested whether the certain prolactin level after 3 months post treatment predicted better response.
RESULTS: Prolactin levels normalized in 109 (88.6%) of 123 included macroprolactinoma patients. The mean tumor size reduction was 22.9%, and patients in the lowest prolactin tertile (≤0.7) had the highest frequency of tumor size reductions of ≥20% (73.7 vs 52.9% and 45.9% in tertiles 2 (>0.7 to 2.6) and 3 (>2.6 to 20), P = 0.015). Patients with prolactin levels ≤1 ng/mL exhibited larger tumor size reductions vs those with prolactin levels of 1-20 (27.2 ± 18.3% vs 19.5 ± 13.9%, P = 0.014), 1-10 (19.3 ± 13.7%, P = 0.017) and 1-5 ng/mL (19.2 ± 14.3%, P = 0.039). A multivariable logistic regression analysis revealed that a prolactin level ≤1 ng/mL at 3 months and high-dose
cabergoline therapy were significantly associated with tumor size reductions of ≥20% (odds ratio (OR): 2.8, 95% confidence interval (CI): 1.2-6.7, P = 0.017; OR: 2.0, 95% CI: 1.0-3.9, P = 0.043).
CONCLUSIONS: A prolactin level ≤1 ng/mL at 3 months after cabergoline treatment was correlated with a significant tumor size reduction in patients with macroprolactinoma. This finding may help clinical decision making when treating macroprolactinoma patients.