Purpose: In two phase 3 trials ocriplasmin induced a significant anatomical response, as well as a significant functional response. The purpose of this analysis was to assess how the anatomic and visual function responses related to each other. Methods: An anatomic response was defined as complete non-surgical resolution of vitreomacular adhesion (VMA). Visual functional response was defined as either: non-surgical visual acuity improvement of ≥ 2 lines; or clinically meaningful improvement in the visual function questionnaire (VFQ-25) composite score (3.6) or driving subscale (19.1). We defined complete responders as participants who improved both anatomically and functionally. Visual-function-only responders, or anatomic-only-responders, were participants who improved in either category (but not both), and non-responders were participants without improvement in either category. We investigated the ocriplasmin effect for each of these response categories using generalized logit regression models with the non-responder group as baseline category. Results: The proportion of complete responders in the ocriplasmin group was 18.3%, versus 5.2% in the placebo group (p= 0.003). The proportion of visual-function-only responders was 36.8% and 29.0% (p=0.0007); and the proportion of anatomic-only-responders was 10.2% and 5.2%, for ocriplasmin and placebo groups respectively (p0.0001). Ocriplasmin treatment produced a visual function response, either alone or in combination with an anatomic response, in 55.1% of patients, compared to 34.2% of patients receiving placebo. Conclusion: The reason why visual function was larger than the anatomic response in the ocriplasmin treated group is not known, but the possibility of partial release of VMA positively affecting visual function warrants further investigation.