Panel Questions for the VisAbility™ Micro Insert System

The applicant has proposed the following Indications for Use (IFU) statement for the VisAbility Micro Insert System:

> The VisAbility™ Micro Insert is indicated for bilateral scleral implantation to improve unaided near vision in phakic, presbyopic patients between the ages of 45 and 60 years of age, who have a manifest spherical equivalent between -0.75 D and +0.50 D with less than or equal to 1.00 D of refractive cylinder in both eyes, and require a minimum near correction of at least +1.25 D reading add.

1. The following is a summaryof key safety information:

   - There were no prespecified safety endpoints; the study was designed to detect adverse events occurring at a rate of 1% or greater through the 24-month time period.

   - Out of 708 operated eyes of 360 subjects cumulatively, there were 365 ocular adverse events (AEs) that occurred in 260 (36.7%) eyes (primary and/or fellow) of 170 (47.2%) subjects **through the 24-month follow-up period** of the trial. Among these, there were:

     - **Scleral perforations** in 8 (1.1%) eyes of 8 (2.2%) subjects, 5 with vitreous prolapse, including one with inadvertent bleb creation unrecognized for 6 months.

     - **Anterior segment ischemia** in 5 (0.7%) eyes of 5 (1.4%) subjects.

     - **Micro Insert segment removals** in 13 (1.8%) eyes of 8 (2.2%) subjects.

   - **After the 24-month follow-up period of the trial**, the following removals were reported:

     - All segments in 18 eyes of 9 subjects

     - 2 segments from 2 eyes of 1 subject

     - 1 segment from 4 eyes of 4 subjects

   Has the applicant provided reasonable assurance of safety of the device for the proposed indications for use?

2. The following is a summary of key effectiveness information:

   - The pre-specified co-primary effectiveness endpoints were:

     - 1st co-primary endpoint - Achievement of DCNVA 20/40 or better and gain ≥10 letters DCNVA in 75% of the primary eyes of implanted subjects at 12-months

- 2nd co-primary endpoint - Achievement of a statistically significant difference in the proportion of primary eyes with DCNVA 20/40 or better and gain of ≥10 letters in subjects randomized to treatment versus deferred surgery as part of the randomized controlled substudy at 6-months

- The study success criteria were not met. Study success was defined as achieving both endpoints.

  - To claim success on 1st co-primary effectiveness endpoint, the pre-specified target was:

    Lower Confidence Interval (CI) ≥ 75%

    Analysis of this endpoint demonstrated that 79.1% (277/350) of subjects were responders where the lower bound of the CI was 74.5%, which was lower than the target value of 75%. Therefore, this endpoint was not met, and the study success criteria were not met.

  - The second co-primary effectiveness endpoint was met.

- There was variability in effectiveness outcomes across sites, with only 3 out of 13 sites driving the 1st co-primary endpoint, and thus, the data may not be generalizable.

- The defocus curve exploratory analysis showed a 1-line difference in the mean change in visual acuity between the primary eyes of the control group and the treatment group at a near testing distance equivalent of 40 cm (2.50 D lens power). The exploratory analysis of the wavefront testing showed no clinically significant change per the applicant's assessment.

Do the results provide reasonable assurance of the effectiveness of the device for the proposed indications for use?

3. Based on the totality of evidence, do the benefits outweigh the risks for the proposed indications for use?

Post-Market Plan

FDA may consider it acceptable to collect certain data in the post-market setting under certain circumstances, when FDA has uncertainty regarding certain benefits or risks of the device, but the degree of uncertainty is acceptable in the context of the overall benefit-risk profile of the device at the time of premarket approval. Please be reminded that the inclusion of Post-Approval Study questions should not be interpreted to mean that FDA has concluded that there is a reasonable assurance of safety and effectiveness of this PMA device. The presence of a post-approval study plan or commitment does not in any way alter the requirements for premarket approval and a recommendation from the Panel on whether the risks outweigh the benefits. The premarket data must reach the threshold for providing reasonable assurance of safety and effectiveness before the device can be found approvable and any post-approval study could be considered.

4. Study 1: Extended Follow-up of Premarket Cohort

   The applicant is currently following-up subjects from the IDE through 60-months post implantation (three additional years). This is an observational study designed to collect long-term safety and effectiveness data with study visits at 36, 48, and 60 months post-operatively.

   a. Is this length of follow-up sufficient to address concerns related to the long-term safety and/or effectiveness of the device?

   b. If not, how long should the subjects continue to be followed post implantation for the purpose of this Post-Approval Study (PAS)?

5. Study 2: New Enrollment PAS

   The applicant proposes a new enrollment PAS to provide additional descriptive data on the intended patient population and to evaluate device performance stratified by surgeon experience. The applicant proposes a 1-year follow-up for all participants implanted with the device. The study did not propose any hypothesis testing, study success criteria, study goal, or a statistical test plan.

   The applicant proposes the following as the safety outcomes:

   Primary:
   - Rate of occurrence of anterior segment ischemia (ASI; grades 2-4)
   - Rate of scleral perforations

   Secondary:
   - Rate of secondary surgical interventions
   - Conjunctival retraction
   - Explant (full or partial)

The applicant proposes a primary effectiveness outcome of change in distance-corrected near visual acuity (DCNVA) from baseline.

a. Do you agree with the length of follow-up? If not, how long should subjects be followed after implantation?

b. Do you agree with the proposed safety endpoints?

   i. Primary Safety Endpoints
   ii. Secondary Safety Endpoints

   If not, what safety endpoints do you recommend?

c. Do you agree that this subjective assessment of DCNVA is appropriate for the primary effectiveness endpoint? If not, what effectiveness endpoint is more appropriate?