Trends and Predictors of Depression among Participants in the Collaborative Initial Glaucoma Treatment Study (CIGTS)

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PURPOSE

- To explore the prevalence and predictors of depression after glaucoma diagnosis

METHODS

- 607 newly diagnosed open-angle glaucoma patients participated in the CIGTS
  - The 8-item Center for Epidemiologic Studies Depression Scale (CESD) was administered by telephone to participants at glaucoma diagnosis, 3 months post-treatment, and every 6 months thereafter.
  - For each of the 8 items, the CESD measured symptom frequency over the last 7 days (0: none, 1: 1-2 days, 2: 3-4 days, 3: 5-7 days)
  - 3 summary depression measures included:
    - overall symptom score (sum of 8 symptoms weighted by frequency, 0-24)
    - frequency of reported symptoms was greater at baseline and restless sleep was the most commonly reported symptom
    - number of depressive symptoms reported (0-8)
  - Linear mixed regression, repeated measures logistic regression, and repeated measures negative binomial regression models were used to test predictors of each of the 3 measures of depression, respectively. These models accounted for the correlation between repeated measures of depression over time
  - Variables investigated were time since diagnosis, demographics, clinical measures, treatment, and vision-related quality of life (VRQOL) measured by the Visual Activities Questionnaire (VAQ; mean of 33 items, each scored 0-5)
  - Model selection used best subset methods

RESULTS

- Longitudinal trends in (A) CESD total score, (B) prevalence of depression (CESD ≥7), and (C) number of reported CESD symptoms show more depression at the time of glaucoma diagnosis with a decrease thereafter
  - Prevalence of depression (B) was 12.5% at baseline, 7.9% at 3 months, 6.7% at 1 year, and 6.7% at 5 years
  - Most CIGTS subjects reported minimal depressive symptoms at baseline and over follow-up (CESD total score <5, light gray section)
  - CIGTS subjects who reported the most depression at baseline also reported depression over follow-up but mostly intermittently and to a lesser extent
  - Factors associated with an increased probability of depression included younger age (odds ratio, OR=0.80 per 10 years, p<0.0001), gender (OR=1.42, female vs. male, p=0.0726), race vs. White (Black, OR=1.21, p=0.3177; Asian, OR=0.08, p=0.0046; Other race, OR=2.20, p=0.0077), less education (<high school vs graduate education, OR=2.93, p=0.0001; high school, OR=1.50, p=0.1304; some college, OR=2.30, p=0.0045; college degree, OR=1.64, p=0.1381), and worse VRQOL (OR=2.41 for 1 unit increase, p<0.0001). Even after adjustment for known predictors of depression

CONCLUSIONS

- We observed elevated depression levels upon glaucoma diagnosis. A sharp decrease was observed in the following year, with modest decreases thereafter
  - The most prevalent symptoms of depression reported were restless sleep, feeling sad, feeling depressed, and inability to get going
  - Higher (worse) scores on the Visual Activities Questionnaire were associated with higher odds of depression (OR=2.41 for 1 unit increase, p<0.0001), even after adjustment for known predictors of depression
  - Eye care providers should:
    - be sensitive to the potential impact of glaucoma diagnosis on their patients’ mental well-being
    - be aware of other factors that increase the risk of depression
    - be prepared to answer questions and provide resources to help patients deal with depressive symptomatology

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