

QOLP-19. FINANCIAL TOXICITY AND DISTRESS DURING THE COVID-19 PANDEMIC IN PEOPLE LIVING WITH PRIMARY BRAIN TUMORS

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Primary brain tumor (PBT) patients experience high symptom burden and functional limitations, which may be impacted by the economic strain and mood disturbance during the COVID-19 pandemic. We assessed financial toxicity and associated patient reported outcomes (PROs) after one year of lockdown in a cohort of PBT patients. Patient and disease characteristics and PROs including FACIT-COST, MDASI-Brain Tumor, PROMIS-Anxiety/Depression short forms, and EQ-5D-3L were collected from 7/2020 to 5/2021 from participants in our Natural History Study. Descriptive statistics, Pearson correlations, and independent samples t-tests evaluated PRO relationships. The cohort included 112 PBT patients: 57% male, 87% white, mean age = 47 (range 25 – 80). Majority were married (65%), completed ≥ 4-year college degree (73%), earned annual family income ≥ \$50,000 (68%) and living with a high-grade glioma (72%) complicated by recurrence (51%). Using FACIT-COST, 56% reported some financial hardship due to illness with a mean FACIT-COST of 28.3 (SD = 11.3, range: 0 – 44). Half of patients reported feeling moderately to extremely anxious or depressed. Non-Whites and Hispanics as well as those not currently working reported worse financial toxicity compared to White non-Hispanics and individuals currently working (21.4 vs 29.8 and 25.7 vs 30.4, respectively). Worse financial toxicity scores strongly correlated with worse overall symptom burden ($r = -0.55$) and interference ($r = -0.42$), worse anxiety ($r = -0.39$) and depression scores ($r = -0.44$), and worse overall HRQOL scores ($r = -0.33$) [all $p < .01$]. This is the first report of FACIT-COST in PBT patients to our knowledge and demonstrates that non-White individuals living with high grade glioma who are not currently working due to their tumor reported worse financial toxicity which was strongly correlated with higher symptom burden and interference with lower HRQOL. Future studies to assess financial toxicity longitudinally and post-pandemic using the FACIT-COST are needed.

QOLP-20. DIETARY, ACTIVITY, AND QUALITY OF LIFE METRICS IN PATIENTS WITH NEWLY DIAGNOSED GLIOBLASTOMA IMPLEMENTING A KETOGENIC DIET: RESULTS OF A PHASE 1 CLINICAL TRIAL

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BACKGROUND: Emerging evidence suggests that a ketogenic diet (KD) may limit neoplastic growth, but limited data exist regarding the effect of KD on daily activity, cognition, and health-related quality-of-life (HRQOL) for patients with glioblastoma. **METHODS:** Newly diagnosed GBM patients participating in a single-arm phase 1 trial of a 16-week KD plus standard-of-care measured BID blood glucose and ketone levels (Keto-Mojo), captured continuous activity data (Fitbit), and completed quality-of-life (QLQ30) surveys and Montreal Cognitive Assessments (MoCA) at baseline, Week 8, and study end (up to 16 weeks). NCT03451799. **RESULTS:** All patients ($n = 14$; 57% female; median age 55 years) maintained blood ketones above 0.3 mM > 50% of study duration (mean per-patient days in ketosis = 87%). Mean glucose (mg/dl) and ketone levels decreased through the study – Weeks 1/2: glucose 94.9 (SD:16.5), ketones 1.44 (SD:5.82); Weeks 3/4: glucose 94.1 (SD:12.9), ketones 1.34 (SD:0.9); Final two weeks: glucose 92.3 (SD:13.3), ketones 1.13 (SD:0.7). On average, patients walked 6,836 steps/day (SD:5,129), spending 14.3 hours sedentary (SD:6.45) and 43.6 minutes (SD:60.4) in high-intensity activity. Sleep duration was 6.8 hours (SD:2.26). Patients ($n = 9$) with OS > 14.6 mo from diagnosis demonstrated greater minutes of high-intensity activity (58.2 vs 20.7, $p = 0.001$), downtrending glucose ($p = 0.001$), and higher ketone levels (1.40 vs 1.11, $p = 0.026$). Activity data corroborated the tolerability of KD with stable-to-increased activity by study end. MoCA scores were stable from baseline (mean 23.4/30, SD:4.16) to study end (mean 24.8/30, SD:7.12; $p = 0.38$). When viewed as a composite score, HRQOL was stable-to-improving in 10/14 patients at Week 8 and EOS. **CONCLUSION:** The use of wearable technology and at-home testing allowed for remote monitoring of activity and diet adherence. Good adherence and stable HRQOL and activity levels were observed in this phase 1 trial.

QOLP-22. THE PSYCHO-ONCOLOGICAL BURDEN OF PATIENTS WITH AGGRESSIVE MENINGIOMA – RESULTS FROM A RETROSPECTIVE CROSS-SECTIONAL STUDY

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Despite the perception of meningioma as a benign disease, up to 35% of patients experience a clinically aggressive course with debilitating treatment and poor outcome. In contrast to the growing interest in novel therapies, the impact on health-related quality of life (HRQoL) is still understudied. Here, we analysed the psycho-oncological burden of patients with aggressive meningioma. Our institutional cohort was searched for meningioma patients with surgery as first intervention and HRQoL was assessed retrospectively at one time point with standardized self-assessment questionnaires (HADS-D, EORTC-QLQ-C30). Aggressive meningioma was defined as WHO grade 2 or 3 or recurrence of a WHO grade 1 meningioma within 5 years after index surgery. Results were correlated with demographic, tumor- and treatment-related factors by multivariate linear regression and compared to internal control patients (WHO grade 1 meningioma, no recurrence within the first 5 years). 400 out of 653 patients returned the questionnaires (62%). Of those, 95 patients (24%) were classified as aggressive meningioma while 305 patients served as internal control. Patients with and without aggressive meningioma differed with regard to sex ($p=0.019$), age ($p=0.015$), extent of resection ($p < 0.0001$) and adjuvant radiotherapy ($p < 0.0001$) at index surgery and KPS at 1st follow-up ($p=0.037$). 34% and 24% of aggressive meningioma patients were screened positive on the anxiety and depression subscales of HADS-D as opposed to 33% and 23% of internal controls (not significant). Aggressive meningioma patients fared significantly worse on most of the function scales of QLQ-C30 (QL: $p=0.004$; PF: $p=0.049$; RF: $p=0.003$; CF: $p=0.01$; SF: $p=0.018$) and reported more financial difficulties (FI: $p=0.015$). In multivariate regression analysis, female sex, KPS at 1st follow-up < 70 and aggressive meningioma were independent factors of impaired HRQoL. This cross-sectional analysis demonstrates that HRQoL is impaired in aggressive meningioma patients who should be screened and treated for their psycho-oncological needs.

QOLP-23. EVALUATION OF FINANCIAL TOXICITY (FT) IN PEOPLE WITH RARE CENTRAL NERVOUS SYSTEM (CNS) TUMORS USING AN INNOVATIVE WEB-BASED STUDY DESIGN

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BACKGROUND: Financial toxicity (FT) refers to the negative financial impact of cancer. Research exploring FT in patients with CNS tumors is limited to more common diagnoses or within single institutions. Total income, work interference and symptom burden are all key parameters when investigating FT in patients with rare CNS tumors. **METHODS:** A web-based study of 210 participants' responses to financial, clinical, symptom burden (MDASI-BT/MDASI-SP), depression and anxiety (PROMIS-Depression/Anxiety), work interference (SF-36) and general health status (EQ-5D-3L) is reported using descriptive statistics and tests of associations. **RESULTS:** Patients were white (93%) employed (48%) females (72%), with median age of 47 (19-75). The most common diagnosis was ependymoma (80%). Original tumor location was the brain in 83 (40%) and spine in 115 (55%). Median time from tissue diagnosis was 48 months (0 – 402). Income was lower than the poverty level in 6% and lower than the median U.S. in 23%. A change in work due to their tumor was reported by 60%, with the majority stopping work (31%). One-third reported lack of access to health-care services and 10% required home care services. Difficulty walking was reported by 42% and difficulty in performing activities due to physical health by over 60%. Anxiety and depression scores aligned with the average for the U.S. population; however, 21% were taking antidepressants and 42% reported not being able to complete work or activities due to depression. Half of all patients reported moderate-severe pain, fatigue, and weakness with higher symptom burden and depression associated with change in work status ($p < 0.003$). **CONCLUSION:** Patients with rare CNS tumors report an impact of their tumor diagnosis on activities/work patterns, with an associated higher symptom burden. Future studies exploring financial impact in patients with rare CNS tumors and targeted programs to address these outcomes are needed.