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Network Analysis of the Relationships Between Symptoms, Functioning, and Sleep/Fatigue in Colorectal Cancer Patients

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Introduction: Among the various patient experiences, cancer-related fatigue and sleep disturbances emerge as pivotal aspects that can substantially impact individuals' quality of life. There exists a relative scarcity of research focusing on the intricate relationship between symptoms, functioning, fatigue, and sleep disturbances in colorectal cancer (CRC) patients.

Objectives: In this context, the current research endeavors to apply advanced statistical methodologies to elucidate the complex relationships between symptoms, functioning, fatigue, and sleep disturbances. By exploring the intricate web of patient characteristics, clinical factors, psychosocial elements, this study aims to construct a holistic model that not only captures the nuances of colorectal cancer patients' experiences but also uncovers potential avenues for intervention and support.

Methods: In our cross sectional study, we administered the European Organization for Research and Treatment of Cancer Quality of Life Questionnaire Core 30 (EORTC QLQ-C30), the Quality of Life Questionnaire Colorectal Cancer Module (QLQ-CR29) to 987patients who were surgically-treated for CRC from the tertiary hospital from 2013 through 2018. To confirm the relationship between symptoms of CRC patients, univariable logistic regression was used to examine the potential relationship between independent variables and the occurrence of fatigue and sleep disorders. Least Absolute Shrinkage and Selection Operator (Lasso) was used for variable selection. The selected variables were then applied to a multivariate logistic regression analysis to examine the most influential predictors of fatigue and sleep disturbance. Finally, gaussian graphical models (GGM) were used to identify potential interactions between characteristics, symptoms, functioning, with fatigue, and sleep disturbances in CRC. In this study, Directed Acyclic Graph (DAG) was used to identify causal dependancy and path of variables.

Results: About 10.4% of study participants reported experiencing fatigue. Sleep problems were reported by 15.8% of the study participants. Multivariable logistic regression analysis using Lasso showed that sleep problem (odds ratio [OR]=2.34; 95% CI, 1.03-5.31), physical, role, and emotional functioning, pain, dyspnoea, and appetite loss were significant predictors of fatigue, while emotional functioning, dyspnoea, and appetite loss were significant predictors of sleep problem. The variables that were directly linked to fatigue were role functioning, emotional functioning, dyspnoea, appetite loss, body image and trouble with taste. The variables that were directly linked to sleep problem were emotional functioning and appetite loss.

Conclusions: In conclusion, there were complex relationships between symptoms, functioning, fatigue, and sleep disturbances. The symptom network of CRC patients showed different patterns toward fatigue and sleep.

Disclosure of Interest: None Declared

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Case Report and Literature review. Neuropsychiatry Manifestation of Frontal Lobe Neoplasm- Meningioma. Prevalence, Presentation and Pathogenesis

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Introduction: Meningiomas are the most frequent primary brain tumor. Although most Meningiomas are benign, their location in the central nervous system can predict symptomatology which could result in significant morbidity and mortality. However, due to the slow-growing nature, meningiomas are usually asymptomatic, and diagnosis is often made incidentally on neuroimaging or at an autopsy. The incidence rate is 1.2-fold higher in Black Americans than White Americans. Neuropsychiatry manifestation might be only initial presentation; thus, psychiatrists are often the first to see these patients, and the correct diagnosis may be made only when the tumor has grown to a considerable size and begun to displace the brain.

Objectives: The aim of this study is to understand the biological basis of psychiatry symptoms in patients with Frontal Lobe meningiomas.

Methods: A review of literature and individual patient data analysis was conducted. The literature review was conducted on PubMed, Medline, MeSH, Google Scholar, and mount Sinai's levy Library using the key words; meningioma, meningioma with psychiatric symptoms, psychosis, depression, neuropsychiatry manifestation of meningiomas.

Results: The review revealed that 88% of brain tumors and psychiatric symptoms are located in the frontal region. Meningiomas accounts for 13%-26% of intracranial tumors. There is a reported low incidence due to its slow growing nature and are usually asymptomatic. Incidence of meningiomas is predominant in females, and is attributed to hormonal factors, this is associated with estrogen and progestogen cycles. Reports shows that smoking has been linked to increase risk of meningiomas in men. Frontal lobe meningiomas may present with only psychological symptoms that resemble depression, anxiety states, hypomania and schizophrenia. Personality and mental status changes are also noted in Frontal lobe tumors. Left sided lesions are associated with inhibition of motor activity, impairment in motor and initiative aspect of speech, diminished generalization ability and general inertia of mental process.

Conclusions: Given the absence of frank neurological symptoms, to help localize the lesion, most meningiomas are missed due to diagnostic overshadowing of the primary psychiatric illness. Peritumoral edema indicates the underlying mechanism and location of the lesion predicts symptomatology. Like our patient who is an 81-year-old male with no past psychiatry history, presenting to our comprehensive psychiatry emergency program with psychiatric manifestation as the initial presentation and subsequently with MRI suggestive of Right Frontal extra-axial meningioma. This study shows that primitive frontal lobe tumors are likely to be misdiagnosed as patients with such tumors are often referred first to psychiatrist. High index of suspicious is needed.

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