|| ISSN(online): 2589-8698 || ISSN(print): 2589-868X ||
International Journal of Medical and Biomedical Studies
Available Online at www.ijmbs.info
NLM (National Library of Medicine ID: 101738825)
Index Copernicus Value 2019: 79.34
Original Research Article
Volume 5, Issue 8; August: 2021; Page No. 65-67

EFFECT OF CURCUMIN ON POST CHEMOTHERAPY QUALITY OF LIFE IN PATIENT OF HAEMATOLOGICAL MALIGNANCIES AND SOLID TUMOURS AS ASSESSED BY QOL QUESTIONNAIRE

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Article Info: Received 15 June 2021; Accepted 03 August 2021
DOI: https://doi.org/10.32553/ijmbs.v5i8.2074
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Conflict of interest: No conflict of interest.

Abstract

Background: Effect of curcumin on post chemotherapy Quality of life in patient of haematological malignancies and solid tumours as assessed by QOL questionnaire

Methods: The study population consisted of male and female patients of Haematological Malignancies & patient of solid tumours (stage 3 & 4 lung, breast, head & neck, ovary Cancer) selected from patients attending medical, radiotherapy and Birla Cancer OPD and medical in-patient wards.

Results: Comparing of total leucocyte count, absolute neutrophil count and platelet count of group A1 and B1 at 1, 2, 3, 4, 8, 12, 16, 20 and 24 weeks, there is no significant difference found. Comparing of total leucocyte count and platelet count of group A2 and B2 at 4, 8, 12, 16, 20 and 24weeks, there is no significant difference found.

Conclusion: Comparing the QOL between two groups by FACT-leu and EQ-5D at 12 and 24 weeks, patients of group-A (A1 and A2) had better quality of life.

Keywords: Solid tumor, EQ-5D, QOL

Introduction

In many countries, the incidence of cancer among older people is increasing. This increase can be attributed to the remarkable growth of the elderly demographic and the common pathophysiology of cancer and ageing.[1-2] As a result, the demands for and the importance of broadening clinical trials to include older adults, incorporating geriatric-specific end points[3] and integrating geriatric assessment to address the needs of individuals are also increasing.[4] Although quality of life (QoL) is not formally a part of the geriatric assessment, the measurement of QoL in the elderly cancer population is increasingly being recognised as an important patient-reported outcome to complement the clinician's evaluation of disease progression and the determination of the clinical benefit and the burden of cancer treatment, along with toxicity, survival and mortality rates. QoL is also considered a useful outcome measure to enhance patient-clinician communication and patient compliance in elderly patients with breast cancer during cancer treatment.[5] In a short literature review, Wedding *et al* reported that elderly patients with cancer tend to perceive their QoL as more important than gains in survival when compared with younger patients.[6] Nevertheless, our understanding of the effect of cancer treatment on the QoL of elderly patients remains very limited. Clinically, the decisions regarding cancer therapy and the clinical management of elderly patients with cancer may be complicated by their vulnerability to chemotoxicity and the pathological changes of ageing together with different considerations of the treatment benefit and harm margins, functional decline, tolerability and QoL issues. A univariate analysis by Extermann *et al* revealed an association of the QoL effect with dose modification of chemotherapy in older patients.[6-7] The literature states that elderly patients with cancer are less likely than their younger counterparts to be treated with a full course of adjuvant chemotherapy and radiotherapy.[8] Consideration should be given to approaches that can prolong life expectancy, but not at the expense of QoL and physical and psychological functioning.

Material and Methods

The study population consisted of male and female patients of Haematological Malignancies & patient of solid tumours (stage 3 & 4 lung, breast, head & neck, ovary Cancer) selected from patients attending medical, radiotherapy and Birla Cancer OPD and medical in-patient wards.

Study type/ design: Hospital based Randomized control trial pilotstudy

Study place: Medical OPD and wards, Leukaemia Lymphoma Clinic at Birla Cancer Centre, S.M.S. Hospital, Jaipur.

Duration of study: 12 months

Case: Newly diagnosed 20 patient of Haematological Malignancies & 20 patient of solid tumours (stage3 & 4 lung, breast, head & neck, ovary Cancer) of both sex receiving myelo-suppressive chemotherapy.

Controls: Newly diagnosed, age, sex, stage of carcinoma and typeof carcinoma matched 20 patient of Haematological Malignancies & 20 patients of solid tumours.

Sample size: Expecting 20% decreasing in common side effect experienced by cases, (eg. 100% control v/s 80 % case). The sample size required to detect this difference in side effect at 95% confidence interval and 80% power is 40 in each group (40:40).

- **Inclusion criteria** :

1. Newly diagnosed, chemo-naive Patients of haematological malignancies (acute leukemia, high-grade NHL, Hodgkin's lymphoma) and solid tumours planned to be given myelo-suppressive chemotherapy.

- **Exclusion Criteria:**

1. Patients of haematological malignancy and solid tumours of both sexalready completed chemotherapy/radiotherapy.

2. Patients unable to give informed consent.

3. Patients who are allergic/intolerant to curcumin.

4. Patients with severe systemic CV, hepatic or renal disease or uncontrolled infection.

Curcumin will be started in dose of 250 mg/day

- Patients will be randomized by computer generated random number table to receive standard chemotherapy or standard chemotherapy plus oral curcumin.

Results

Table 1: Compare group A1 and B 1 at 12th weeks

Group	Physical well-being	Social/family well-being	Emotional well-being	Functional well-being	Additional concerns
Group A 1	2.65	3.82	3.24	3.6	2.89
Group B 1	3	3.98	3.51	3.8	3.16

Table 2: Compare group A1 and B1 at 24th weeks

Group	Physical well-being	Social/family well-being	Emotional well-being	Functional well-being	Additional concerns
Group A 1	1.81	3.35	2.46	3.03	2.34
Group B 1	2.16	3.54	3	3.46	2.77

Table 3: Compare overall QQL score in group A1 and B1

Group	At 12th week	At 24th week
Group A1	2.89	2.34
Group B1	3.16	2.77

Table 4: Compare Quality of life by euro qql in Group A2 and B2

Duration in weeks	Group A2	Group B2
At 12th week	2.17	2.24
At 24th week	1.88	2.18

Discussion

One of aims of this study was to evaluate and compare the baseline QOL with subsequent change in QOL of patients of both groups. In the present study, quality of life assessment was done by FACT-Leu and EQ-5D questionnaires.

FACT-Leu:-

At the start of treatment, quality of life scores were almost similar in both the groups. Mean Overall QOL score was 4.09 /5 in group-A 1 and 4.15 /5 in group-B1.

After 12 weeks, comparison of mean scores between both groups were – Physical well being (2.65/5 vs. 3/5), social/family well-being (3.82/5 vs. 3.98/5), Emotional well being (3.24/5 vs. 3.51/5), Functional well-being (3.6/5 vs. 3.8/5), Additional concerns (2.89/5 vs. 3.16/5), all the scores were better in group-A1. Mean Overall QOL score

was 3.24/5 in group-A1 and 3.49/5 in group-B1, which also suggests QOL was better in group-A1 patients at 12 weeks.

After 24 weeks, comparison of mean scores between both groups were – Physical well being (1.81/5 vs. 2.86/5), social/family well-being (3.35/5 vs. 3.54/5), Emotional well being (2.46/5 vs. 3/5), Functional well-being (3.03/5 vs. 3.46/5), Additional concerns (2.34 /5 vs. 2.77/5). Mean Overall QOL score was 2.598/5 in group-A1 and 2.986/5 in group-B1, which also suggests QOL was better in group-A1 patients at 24 weeks.

EQ-5D:-

At the start of treatment, quality of life scores were almost similar in both the groups A2 & B2.

After 12 weeks, comparison of mean scores between both groups were – Score were 2.17/3 vs. 2.24/3, and health status overall were 50% in group A2 and 47.77% in group B2. This suggests QOL was better in group-A2 patients at 12 weeks.

After 24 weeks, comparison of mean scores between both groups were – 1.88/3 vs. 2.18/3, and overall health status was 52.94% in group A2 and 51.87% in group B2. This suggests that QOL was better in group-A2 patients at 24 weeks.

Conclusion

Comparing the QOL between two groups by FACT-leu and EQ-5D at 12 and 24 weeks, patients of group-A (A1 and A2) had better quality of life.

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