Retrospective Analysis of The Prognostic Impact Of Lymph Node Ratio (mLNR) In Colorectal Cancer at Clinical Oncology Department, Ain Shams University Hospitals and Damanhur Oncology Center

Original Article

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ABSTRACT

Background: Colorectal cancer (CRC) is one of the most common malignancies worldwide. It is the third most common malignancy worldwide after lung cancer and breast cancer respectively. CRC is the second leading cause of death after lung cancer. CRC is also widespread in Egypt. According to Egypt National Cancer Registry, Colorectal Cancer ranks the seventh either in males or females.

Aim of the Work: identifying the prognostic significance of metastatic LNR (mLNR) by analyzing survival rates; disease-free survival (DFS) and overall survival (OS) of adult patients diagnosed with non-metastatic CRC who were treated at Clinical Oncology Department Ain Shams University hospitals & Damanhur Oncology Center in the period from January 2015 to end of December 2020.

Patient and Methods: This is a retrospective cohort study conducted on 116 non metastatic CRC adult patients who were treated at Ain Shams clinical oncology department and Damanhur oncology center in the period from January 2015 to end of December 2020. Depending on ratio of positive LNs to the total number of LNs resected, Patients were categorized into five groups; LNR0 in which patients have no metastatic lymph nodes, LNR1; patients have LNR between 0.1 and 0.17, LNR2, patients have LNR between 0.18 and 0.41, LNR3, patients have LNR between 0.42 and 0.69 and the last group, LNR4in which patients have LNR >0.7. Patients' personal history and clinical data were collected and analyzed together with results of laboratory and radiological investigations in addition to follow-up data for estimating survival rates (OS and DFS) of the five groups' patients.

Results: According to staging in the five groups, about 86% (n=26) of patients in LNR0 group were classified as stage 2, 100% of patients in LNR1, LNR2, LNR3, LNR4 group were classified as stage 3. In terms of survival rates; the mean overall survival was 62.25 months while the mean DFS was 51.14 months with median of 50.3 months. OS and DFS were significantly differed between the studied groups as regard OS that was 96.7%, 88.9%, 82.6%,70%, 50% in LNR0, LNR1, LNR2, LNR3, LNR4 respectively and disease-free survival was 93.3%, 85.2%, 60.9%, 45%, 28.8% respectively.

Conclusion: We concluded that, in the present series of non-metastatic CRC patients, a highly significant association was revealed between mLNR and prognosis of non-metastatic CRC as regard OS and DFS.

Key Words: CRC, DFS, LNR, OS.

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INTRODUCTION

CRC is the third most common malignancy worldwide after lung cancer & breast cancer. CRC represents 10 % of all cancers. The mortality rate depends on tumor stage or treatment availability[1].

In the American Joint Committee on Cancer (AJCC) staging system, the nodal status (N stage) is defined according to the presence of regional LN metastasis. CRC with regional LN metastases classified into stage III, adjuvant chemotherapy is a standard of care[2].

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Tumor classification helps to predict prognosis. The LN status is determined by the amount of LN delivered that is discarded. As metastatic LN number increases, the prognosis worsens: pN0 (no affected node), pN1 (affected node ≤3), pN2 (affected node >3). The 5-year survival rate for stage II CRC patients is about 80%, while in CRC stage III patients with nodal metastases, the rate falls to 50%. A more detailed assessment system is needed for lymphadenopathy[2].

The National Comprehensive Cancer Network (NCCN) guidelines recommended minimum requirements for local examination of LNs, as 12 LNs to be collected for the appropriate assessment of lymphadenopathy. Improper local lymph node collection can result in false negatives or reduced lesions in N stage lymph nodes[3].

The compensation for these possibilities could be needed to evaluate the nodal disease in cancer staging. Other parameters such as the number of regional LN, the number of metastatic LN (mLN), and metastatic LN ratio (mLNR) were entered[4].

The mLNR represents the ratio of the number of positive mLNs to the total number of examined LNs. LNR is divided into five groups as mentioned above[5].

This study has assessed the prognostic significance of mLNR in CRC patients with no systemic metastases by estimating survival rates; OS and DFS.

AIM OF THE WORK

This study aims at identifying the prognostic significance of mLNR in adult patients with non metastatic CRC who were treated at Clinical Oncology Department, Ain Shams University hospitals & Damanhur Oncology Center by estimating survival rates; OS as primary endpoint and DFS as secondary endpoint.

PATIENTS AND METHODS

Study design

After obtaining the approval of Ain Shams University research ethics committee, we performed a retrospective cohort study on non metastatic CRC adult patients who were treated at Ain Shams Clinical Oncology department & Damanhur oncology center in the period from January 2015 to December 2020.

Sampling method:

Consecutive sampling will be done By using PASS 11 program for sample size calculation, setting confidence level at 90%, margin of error +/- 0.15, and after reviewing previous study results[5] showed that cancer-specific survival rates in non-metastatic colorectal patients with (LNR0, LNR1, LNR2, LNR3 and LNR4) were (75.2%, 66.1%, 48.0%, 34.0% and 17.7% respectively) in a sample size of at least 112 non-metastatic colorectal cancer patients divided into 5 groups (LNR0, LNR1, LNR2, LNR3 and LNR4).

Sample size

Between beginning of January 2015 and end of December 2020, all available files of CRC patients at the Clinical Oncology Department, Ain Shams University Hospital archive and Damanhur Oncology Center archive were checked and all Patients aged 18 years or older with diagnosis of primary (non-metastatic) CRC, operated with pathological examination of at least 12 LNs were enrolled in our study and were followed up for 2 years as regard OS and DFS. On the other hand, Patients in whom CRC was not the only single or first malignancy, presence of systemic metastases, surgical resection of regional LN unperformed or less than 12 LNs were examined, diagnosis not confirmed by histopathology or OS and DFS observation is less than 2 years were excluded from this study.

Of four hundred and twenty-seven CRC files, two hundred and eighty-two patients were excluded either for finding systemic metastases or inadequate LN resection (less than 12 LNs resected or examined). Twenty-nine patients did not complete their work up and treatment at Ain Shams University clinical oncology department & Damanhur oncology center and hence were excluded as well, so only 116 patients were enrolled in this study.

Variables

The five LNR groups were compared to each other according to the following variables:

Patient demographic characteristics; Age: age was divided into two categories (< 60 and >60 years old). Gender: both males and females were enrolled.

Investigations: investigations available for diagnosis and staging were reviewed as follows: Determining the

site of the disease whether it was right colon, transverse colon, left colon, sigmoid, rectum, anorectal, colon plus rectum or sigmoid plus rectum. Pathology report: histopathological type either adenocarcinoma or mucinous subtype and Grade of tumor were evaluated. Tumor (T), nodal status (N), metastases (M); which is labelled by TNM classification were revised in addition to the stage of the tumor identified.

Type of surgery: which is divided into three procedures; abdominoperineal resection (APR), Colectomy (right hemicolectomy, left hemicolectomy or total colectomy) and low anterior resection (LAR).

Follow up data evaluation: Using CT of the chest, abdomen, and pelvis +/- CEA serum levels, +/- PET/CT, all patients' files were reviewed to determine disease outcomes including OS which refers to the duration from the date of diagnosis to death or last follow-up and DFS which refers to the time from the date of diagnosis to the first evidence of disease recurrence[6].

Statistical analysis of the data

Data was fed to the computer and analyzed using IBM SPSS software package version 20.0. (Armonk, NY: IBM Corp) Qualitative data were described using number and percent. The Shapiro-Wilk test was used to verify the normality of distribution Quantitative data were described using range (minimum and maximum), mean, standard deviation, median and interquartile range (IQR). The significance of the obtained results was judged at the 5% level.

The used tests were

Chi-square test: For categorical variables, to compare between different groups[7].

Fisher's Exact or Monte Carlo correction: Correction for chi-square when more than 20% of the cells have expected count less than 5[8].

One way ANOVA test: For normally distributed quantitative variables, to compare between more than two groups[9].

Kaplan-Meier: Kaplan-Meier Survival curve was used, and cox regression was done for the significant relation with DFS and OS[10].

Ethical considerations

The study was commenced after obtaining the approval of Ain Shams University research ethics committee at Faculty of Medicine Ain Shams University. Ethical consideration by FMASU MS 291/2023. Data confidentiality was maintained.

RESULTS

Table 1: Distribution of the studied cases according to LNR (n = 116).

	No.	%
LNR		
LNR 0	30	25.9
LNR 1	27	23.3
LNR 2	23	19.8
LNR 3	20	17.2
LNR 4	16	13.8

Table 2: Comparison between the five studied groups according to demographic data.

	LNR 0 (n = 30)		LNR 1 (n = 27)		LNR 2 (n = 23)		LNR 3 (n = 20)		LNR 4 (n = 16)		Test of Sig.	p
	No.	%	No.	%	No.	%	No.	%	No.	%		
Sex												
Male	15	50.0	15	55.6	10	43.5	8	40.0	8	50.0	χ^2= 1.388	0.846
Female	15	50.0	12	44.4	13	56.5	12	60.0	8	50.0		
Age												
≤60	21	70.0	18	66.7	15	65.2	12	60.0	8	50.0	χ^2= 2.060	0.725
>60	9	30.0	9	33.3	8	34.8	8	40.0	8	50.0		
Min. – Max.	33.0 – 74.0		30.0 – 91.0		32.0 – 76.0		31.0 – 72.0		33.0 – 75.0			
Mean ± SD.	52.97 ± 11.42		58.44 ± 15.14		56.17 ± 11.99		51.70 ± 13.24		57.25 ± 12.89		F= 1.138	0.343
Median (IQR)	55.0 (44.0 – 61.0)		54.0 (48.0 – 66.0)		57.0 (50.50 – 64.0)		47.0 (41.0 – 63.0)		60.0 (52.50 – 65.50)			

IQR: Inter quartile range SD: Standard deviation F: F for One way ANOVA test χ^2: Chi square test
p: *p value* for comparing between the five studied groups

Table 3: Comparison between the five studied groups according to Colonoscopy findings.

	LNR 0 (*n* = 30)		LNR 1 (*n* = 27)		LNR 2 (*n* = 23)		LNR 3 (*n* = 20)		LNR 4 (*n* = 16)		χ^2	^{MC}p
	No.	%	No.	%	No.	%	No.	%	No.	%		
Colonoscopy												
Rt colon	11	36.7	8	29.6	3	13.0	4	20.0	8	50.0		
Transverse colon	0	0	0	0.0	0	0.0	1	5	0	0.0		
Lt colon	0	0.0	3	11.1	1	4.3	5	25.0	5	31.3	48.798*	0.001*
Sigmoid	4	13.3	5	18.5	11	47.8	3	15.0	1	6.3		
Rectum	9	30	8	29.6	6	26	7	35.0	2	12.5		
Un identified Colon	6	20.0	3	11.1	2	8.7	0	0.0	0	0.0		

χ^2: Chi square test MC: Monte Carlo
p: *p value* for comparing between the five studied groups
*: Statistically significant at $p \leq 0.05$

Table 4: Comparison between the five studied groups according to histopathology.

	LNR 0 (*n* = 30)		LNR 1 (*n* = 27)		LNR 2 (*n* = 23)		LNR 3 (*n* = 20)		LNR 4 (*n* = 16)		χ^2	*p*
	No.	%	No.	%	No.	%	No.	%	No.	%		
Adenocarcinoma												
Yes	30	100	26	96.3	22	95.7	20	100.0	14	87.5	3.100	^{MC}p= 0.564
No	0	0	1	3.7	1	4.3	0	0.0	2	12.5		
Grade												
II	24	80.0	22	81.5	21	91.3	13	65.0	11	68.8	5.469	^{MC}p= 0.236
III	6	20.0	5	18.5	2	8.7	7	35.0	5	31.3		
Mucinous												
Yes	7	23.3	5	18.5	15	65.2	13	65.0	13	81.3	16.355*	0.003*
No	23	76.7	22	81.5	8	34.8	7	35.0	3	18.8		

χ^2: Chi square test MC: Monte Carlo
p: *p value* for comparing between the five studied groups
*: Statistically significant at $p \leq 0.05$

Table 5: Comparison between the five studied groups according to TNM.

TNM	LNR 0 (*n* = 30)		LNR 1 (*n* = 27)		LNR 2 (*n* = 23)		LNR 3 (*n* = 20)		LNR 4 (*n* = 16)		χ^2	^{MC}p
	No.	%	No.	%	No.	%	No.	%	No.	%		
T												
T1	2	6.7	0	0.0	0	0.0	0	0.0	0	0.0		
T2	2	6.7	4	14.8	3	13.0	0	0.0	0	0.0	20.663	0.146
T3	23	76.7	23	85.2	17	73.9	18	90.0	16	100.0		
T4	3	10	0	0.0	3	13	2	10	0	0.0		
N												
N0	30	100	0	0.0	0	0.0	0	0.0	0	0.0		
N1	0	0.0	20	74	8	34.7	6	30	2	12.5	146.101*	<0.001*
N2	0	0.0	7	25.9	15	65.1	14	70	14	87.6		

χ^2: Chi square test MC: Monte Carlo
p: *p value* for comparing between the five studied groups
*: Statistically significant at $p \leq 0.05$

Table 6: Comparison between the five studied groups according to stage.

	LNR 0 (n = 30)		LNR 1 (n = 27)		LNR 2 (n = 23)		LNR 3 (n = 20)		LNR 4 (n = 16)		χ^2	^{MC}p
	No.	%	No.	%	No.	%	No.	%	No.	%		
Stage												
Stage 1	4	13.3	0	0.0	0	0.0	0	0.0	0	0.0		
Stage 2A	25	83.3	0	0.0	0	0.0	0	0.0	0	0.0		
Stage 2B	1	3.3	0	0.0	0	0.0	0	0.0	0	0.0	143.373*	<0.001*
Stage 3A	0	0.0	3	11.1	3	13.0	0	0.0	0	0.0		
Stage 3B	0	0.0	23	85.2	15	65.2	10	50.0	2	12.5		
Stage 3C	0	0.0	1	3.7	5	21.7	10	50.0	14	87.6		

χ^2: Chi square test MC: Monte Carlo
p: *p value* for comparing between the five studied groups
*: Statistically significant at $p \leq 0.05$

Table 7: Comparison between the five studied groups according to mortality and Disease-free survival

At end of the study	LNR 0 (n = 30)		LNR 1 (n = 27)		LNR 2 (n = 23)		LNR 3 (n = 20)		LNR 4 (n = 16)		χ^2	p
	No.	%	No.	%	No.	%	No.	%	No.	%		
Overall survival												
Live	29	96.7	24	88.9	19	82.6	14	70.0	8	50.0	16.256*	^{MC}p= 0.001*
Died	1	3.3	3	11.1	4	17.4	6	30.0	8	50.0		
Disease free survival												
Free	28	93.3	23	85.2	14	60.9	9	45.0	3	18.8	34.718*	<0.001*
Disease	2	6.7	4	14.8	9	39.1	11	55.0	13	81.3		

χ^2: Chi square test MC: Monte Carlo
p: *p value* for comparing between the five studied groups
*: Statistically significant at $p \leq 0.05$

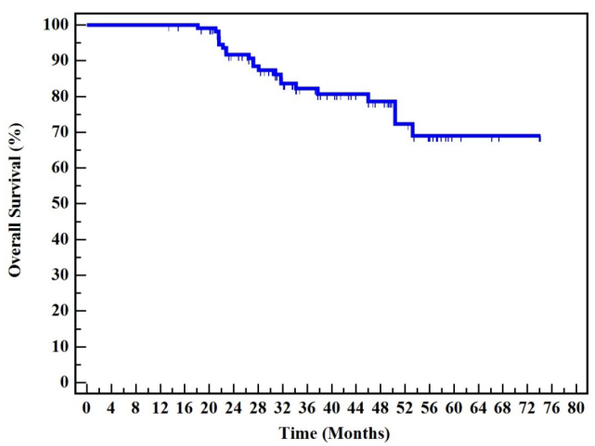

Fig.1: Kaplan-Meier survival curve for OS of patients in the five studied groups.

Table 8: Overall survival (OS) of patients in the five groups.

	Mean (months)	Median (months)	The Percent reached in 5 groups
Overall Survival	62.25	Not reached	69.0%

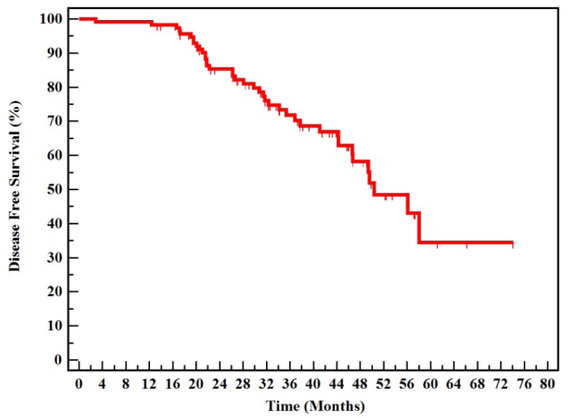

Fig.2: Kaplan-Meier survival curve for DFS.

Table 9: Disease free survival (DFS) of patients in the five groups.

	Mean (months)	Median (months)	The Percent reached in 5 groups
Disease free survival	51.14	50.37	34.5%

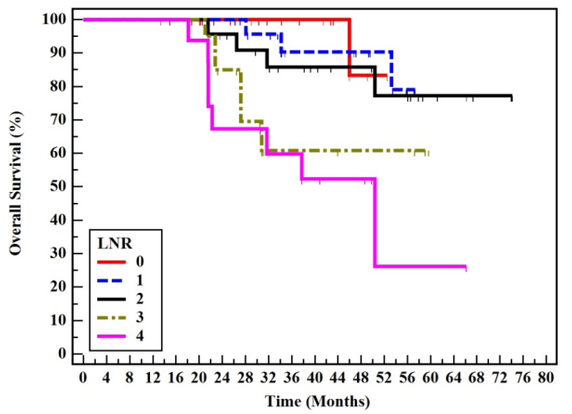

Fig.3: Kaplan-Meier survival curve for OS with LNR.

Table 10: OS of patients according to each LNR group.

	Mean	Median	Overall survival percentage	Log rank χ^2	p
LNR					
LNR 0	51.41	Not reached	83.3%		
LNR 1	54.37	Not reached	79.0%		
LNR 2	65.39	Not reached	77.2%	18.755*	0.001*
LNR 3	46.50	Not reached	60.9%		
LNR 4	42.57	50.367	26.2%		

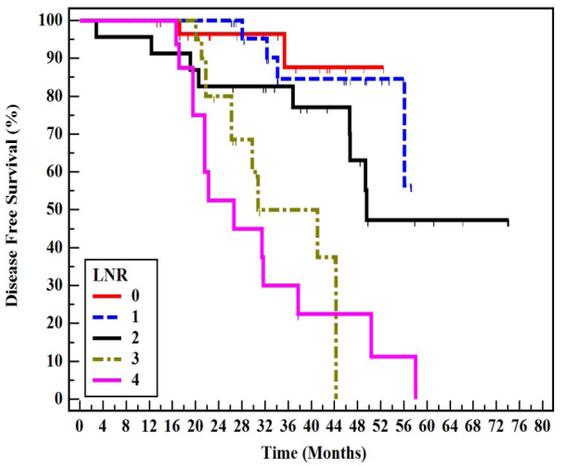

Fig. 4: Kaplan-Meier survival curve for DFS with LNR.

Table 11: The mean and median DFS of patients in relation with each LNR group.

	Mean	Median	Overall survival percentage	Log rank χ^2	p
LNR					
LNR 0	49.74	Not reached	87.7%		
LNR 1	53.03	Not reached	56.4%	39.998*	<0.001*
LNR 2	53.83	49.57	47.3%		
LNR 3	34.59	30.80	0.0%		
LNR 4	31.22	26.63	0.0%		

Table 12: Univariate and multivariate COX regression analysis for the parameters affecting OS (n = 22 vs. 94).

	Univariate		#Multivariate	
	p	HR (LL–UL 95%C.I)	*p*	HR(LL–UL 95%C.I)
Female	0.810	1.109(0.478– 2.571)		
Grade III	0.267	1.664 (0.677 – 4.089)		
Age over 60 years	<0.001*	6.906(2.541–18.772)	0.001*	5.137(1.880–14.035)
Rectum	0.621	0.760 (0.257 – 2.254)		
T 4/3/2	0.668	20.818(0.0–22166394.3)		
N2	<0.001*	8.802 (2.599 – 29.803)	0.002*	6.682(1.952–22.880)

HR: Hazard ratio
C.I: Confidence interval LL: Lower limit UL: Upper Limit
#: All variables with p<0.05 was included in the multivariate
*: Statistically significant at $p \leq 0.05$

Table 13: Univariate and multivariate COX regression analysis for the parameters affecting DFS (n = 40 vs. 76).

	Univariate		#Multivariate	
	p	HR (LL–UL 95%C.I)	*p*	HR(LL–UL 95%C.I)
Male	0.957	1.017 (0.543– 1.908)		
Grade III	0.040*	2.028 (1.033 – 3.979)	0.099	1.767(0.898–3.477)
Age over 60 years	0.035*	1.970 (1.048– 3.703)	0.196	1.524(0.805 – 2.887)
Rectum	0.244	0.595 (0.249 – 1.426)		
T 4/3/2	0.572	20.859(0.001– 787326.8)		
N2	<0.001*	4.067 (1.972 – 8.391)	0.001*	3.621(1.739 – 7.540)

HR: Hazard ratio
C.I: Confidence interval
LL: Lower limit UL: Upper Limit
#: All variables with $p<0.05$ was included in the multivariate
*: Statistically significant at $p \leq 0.05$

DISCUSSION

The most common prognostic factor affecting the resection adequacy is the lymph node harvesting, which was higher in colon cancer than of rectal cancer apparently This may be reversed to the neoadjuvant therapy effect on lymph nodes depletion, giving a false picture of inadequate resection.

proper tumor classification helps to predict prognosis. According to AJCC 8th edition; LN status is determined by the amount of positive LN that are resected during 1ry tumor surgery. As the number of metastatic LNs increases, the prognosis worsens: pN0 (no affected node), pN1 (affected node ≤3) & pN2 (affected node >3). The 5-year survival rate for patients with stage II CRCis approximately 80% whereas in stage III CRC patients with LN metastases, the rate falls to 50%. A more detailed assessment system is needed for lymphadenopathy[5].

More studies suggested other parameters to evaluate the nodal status in CRC staging such as metastatic LN ratio (mLNR)[4].

Our analysis provided evidence that the cut-off values of LNR proposed by ***Rosenberg et al.*** were well validated and led to significant survival stratification.

In our retrospective study, among 116 patients, 30 patients (25.9%) were categorized in LNR0 group, 27 patients (23.3%) in LNR1, 23 patients (19.8%) in LNR2, 20 patients (17.2%) in LNR3 and 16 patients (13.8%) in LNR4.

The mean age of the participants in our study was 55.5 (±14) years, which is younger than the mean age of 68.1 years found in a study conducted by[5]. On the other side, it was higher than the mean age of 51 ± 15 years reported in an Egyptian study by[11].

CRC is also common among Egyptian patients who underwent colonoscopy. Higher rates were reported in patients under 40 years of age than reported in the West. This has implications associated with future epidemiological trends in Egypt[11].

Among 116 patients diagnosed CRC, there were 56 men and 50 women which agreed with results of study conducted by[11].

The proportion of cases among those younger than 55 years increased from 11% in 1995 to 20% in 2019. This overall shift could have been due to earlier stage diagnosis that occurred during 1995 through 2005 by screening for whom it was recommended[12].

As regard the site of tumor; there was significant difference between the studied groups with higher rates in left colon and rectum. This is similar to data found by[12] which analyzed CRC statistics and showed that there is a shift to left-sided tumors, with the incidence of rectal cancer increasing from 27% in 1995 to 31% in 2019.

According to our data analysis concerning histological subtypes of CRC, the most common one was adenocarcinoma not otherwise specified (AC NOS) grade 2 which is consistent with findings from some studies[13].

Furthermore, the specific type of surgery is determined by the location of the disease. Four common types are left hemicolectomy, right hemicolectomy, sigmoid colectomy and low anterior resection (LAR).

There was significant difference between the studied groups as regard type of surgery which showed adequate surgical resection with anastomosis (left hemicolectomy, right hemicolectomy, sigmoid colectomy and LAR) was the main surgery performed in all groups which is consistent with the result of most studies which approved surgical resection with adequate LN resection (the most common is colectomy either open or laparoscopic) is the gold standard in treatment of CRC[14].

There were insignificant differences between the studies groups as regard tumor invasion (T) of but as lymph node status (N) there was significant difference as regard No lymph involvement (N0) predominance in LNR0 (100%), N1 predominance in LNR1 (74%), N2 predominance in LNR2, LNR3&LNR4 in ascending order (65.1%, 70%, 87,6% respectively) in conformity with the results of ***Zhang et al.***, 2018 study[5].

About 86% (*n*=26) of patients in LNR0 group were classified as stage 2, 100% of patients in LNR1, LNR2, LNR3, LNR4 group were classified as stage 3.

There was significant difference between the studied groups as regard stage as higher stage founded in higher LNR groups which is in line with the results of a study conducted by ***Pyo et al.***, 2019[4]. This is logical as there is possibility of categorizing LNR0 in stage 1 to stage 2, but once LN metastases occurred stage 3 is classified according to AJCC 8th edition.

In terms of survival, our results showed that survival rates became worse when mLNR got higher as regard Overall survival and disease-free survival that were significantly differed between the studied groups; OS was (96.7%, 88.9%, 82.6%,70%, 50% in LNR0, LNR1, LNR2, LNR3, LNR4 respectively) and DFS was (93.3%, 85.2%, 60.9%, 45%, 28.8% respectively).

Furthermore, there was significant difference between the studied groups as regard overall survival and mLNR as in LNR0; the mean OS was about 51.4 months reached in 83.3% of patients, in LNR1 the mean OS was 54.37 months reached in 79% of patients, in LNR2 the mean OS was 65.39 months reached in 77.2% of patients, in LNR3 the mean OS was 46.5 months reached in 60.9% of patients & in LNR4 the mean OS was 42.57 months reached in 26.2% of patients.

Moreover, there was significant difference between the studied groups between disease free survival and mLNR as in LNR0; the mean DFS was about 49.74 months reached in 87.7% of patients, in LNR1 the mean DFS was 53 months reached in 56.4% of patients, in LNR2 the mean DFS was 53 months reached in 47% of patients, in LNR3 & LNR4 the mean DFS was 35 & 31 months respectively not reached by any of patient's group.

Our study revealed results of significant difference between mLNR and survival rates (OS & DFS) which were similar to the results of some conducted studies; ***Pyo et al.***, (2019)[4], ***Gülben et al.***, (2022)[15], ***Kamalı et al.***, (2022)[16] that showed mLNR was found to be an independent prognostic factor on both overall survival and disease-free survival in patients with non-metastatic CRC.

CONCLUSION

Epidemiological and clinical outcomes data on non metastatic CRC are rather deficient, especially in developing countries. We aimed at providing retrospective data on epidemiological, clinic-pathological features, and focused mainly on the relation between mLNR and outcomes of adult non-metastatic CRC patients treated at the clinical oncology department, Ain Shams University hospitals and Damanhour oncology center. In our study, non-metastatic CRC patients were presented with different mLNR and different outcomes as regard OS and DFS. Among 116 patients, 30 patients (25.9%) were categorized in LNR0 group, 27 patients (23.3%) in LNR1, 23 patients (19.8%) in LNR2, 20 patients (17.2%) in LNR3 and 16 patients (13.8%) in LNR4. In terms of survival, our results showed that survival rates became worse when mLNR got higher as regard overall survival and disease-free survival that were significantly differed between the studied groups; OS was (96.7%, 88.9%, 82.6%,70%, 50% in LNR0, LNR1, LNR2, LNR3, LNR4 respectively) and DFS was (93.3%, 85.2%, 60.9%, 45%, 28.8% respectively). We concluded that, in the present series of non-metastatic CRC patients, a highly significant association was revealed between mLNR and prognosis of non-metastatic CRC as regard OS and DFS.

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دراسة بأثر رجعي لتحليل التأثير النذير لنسبة العقد الليمفاوية المنتشرة في سرطان القولون والمستقيم في قسم علاج الأورام بمستشفيات جامعة عين شمس

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الخلفية: يعد سرطان القولون والمستقيم واحدًا من أكثر الأورام الخبيثة شيوعًا في العالم فهو ثالث أكثر الأورام الخبيثة شيوعًا بعد سرطان الرئة وسرطان الثدي على التوالي. يعد سرطان القولون والمستقيم هو السبب الرئيسي الثاني للوفاة حيث يشكل ٩,٤٪ من وفيات السرطان بعد سرطان الرئة. طبقا للسجل الوطني المصري للسرطان فان سرطان القولون و المستقيم يحتل المركز السابع في مصر سواء رجال أو نساء.

الأهداف: تم تصميم هذه الدراسة لتحديد أهمية النذير لنسبة العقد الليمفاوية الإيجابية إلى العقد الليمفاوية التي تم فحصها و هو ما يسمي بنسبة العقد الليمفاوية النقيلى عن طريق تحليل معدلات البقاء علي قيد الحياة (معدل البقاء الكلي و معدل البقاء خاليا من المرض) في مرضى سرطان القولون والمستقيم الذين عولجوا داخل قسم علاج الأورام و الطب النووى بمستشفيات جامعة عين شمس و مركز دمنهور لعلاج الأورام .

المريض والأساليب: شملت هذه الدراسة الاسترجاعية ١١٦ مريضا بالغا من مرضي سرطان القولون والمستقيم غير النقيلي الذين عولجوا في قسم الأورام السريري بمستشفيات جامعة عين شمس و مركز دمنهور لعلاج الأورام من يناير ٢٠١٥ الي ديسمبر ٢٠٢٠.

تم تصنيف المرضى إلى خمس مجموعات اعتمادا علي نسبة العقد الليمفاوية الايجابية الي نسبة العقد الليمفاوية. الكلي المستأصلة.

تم جمع البيانات الديموغرافية والسريرية للمرضى مع نتائج التحقيقات المختبرية والإشعاعية بالإضافة إلى بيانات المتابعة لتقدير معدلات البقاء على قيد الحياة (معدل البقاء الكلي ومعدل البقاء خاليا من الأمراض) لمرضي المجموعات الخمس.

النتائج: كان متوسط عمر المرضي ٥٦ +_ ١٤ من بين ٥٦ ذكر و ٥٠ أنثي. حيث بلغ معدل البقاء الكلي للخمس مجموعات ٦٢,٢٥ شهرا والذي تم الوصول ايه بنسبة ٦٩٪ من المرضي .

كان هناك فرق كبير بين المجموعات المدروسة فيما يتعلق بالبقاء على قيد الحياة بشكل عام حيث بلغ متوسط البقاء الكلي ٥١,٤ شهرا تم الوصول اليه بنسبة ٨٧,٣٪ من مرضي المجموعة الأولى، متوسط ٥٤,٣٧ شهرا تم الوصول اليه في ٧٩٪ من مرضى المجموعة الثانية، متوسط ٦٥,٣٩ شهرا تم الوصول اليه في ٧٧ ٪ من مرضي المجموعة الثالثة، متوسط ٤٦,٥ شهرا تم الوصول اليه في ٧٣٪ من مرضي المجموعة الرابعة و متوسط ٤٢,٥٧ شهرا في ٢٦,٢ ٪ من مرضي المجموعة الخامسة.

أما عما يتعلق بمعدل البقاء خاليا من المرض فقد بلغ متوسط معدل البقاء على قيد الحياة خاليا من المرض في الخمس مجموعات ٥١,١٤ شهرا ونسبة وسيط حسابي ٥٠,٣ شهرا. و قد كان هناك فرق واضح بين المجموعات الخمس المدروسة حيث بلغ متوسط ٤٩,٧٤ شهرا تم الوصول اليه في ٨٧,٧ ٪ من مرضي المجموعة الأولي، متوسط ٥٣ شهرا في ٥٦,٤ ٪ من مرضي المجموعة الثانية، متوسط ٥٣ شهرا في ٤٧ ٪ من مرضي المجموعة الثالثة ومتوسط ٣٥ و ٣١ شهرا على التولى لم يصل اليهم أيا من مرضي المجموعة الرابعه اوالخامسة.

الخلاصة: كان لنسبة العقد الليمفاوية النقيلي في مرضي سرطان القولون والمستقيم غير المنتشر بثانويات بالجسم ارتباطا واضحا للغاية فيما يتعلق بالتأثير النذير (في معدل البقاء على قيد الحياة الكلي و معدل البقاء على قيد الحياة خاليا من المرض).