



***In the name of God***



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# Evaluation of rs3746444 polymorphism of mir-499 gene in patients with colon cancer compared with healthy subjects

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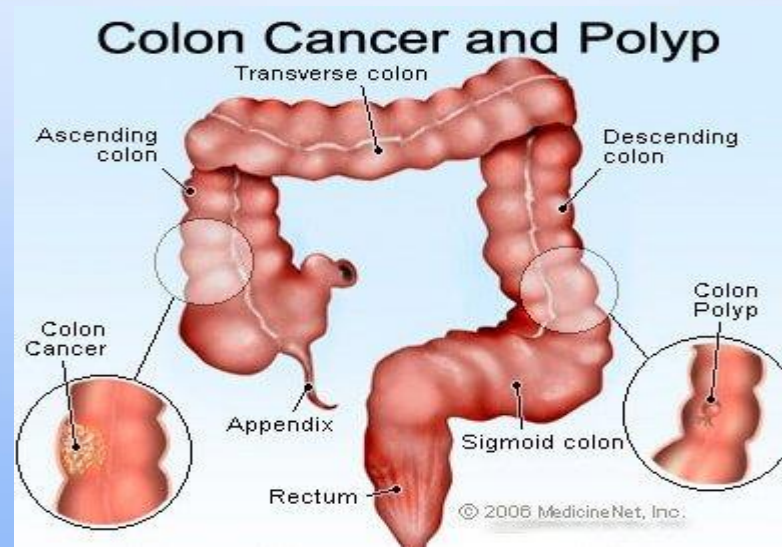


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# Colon and rectal cancer

- The third most common cancer in the world with an estimate of over 1200000 new cases per year
- Single nucleotide polymorphisms (SNPs) have been introduced as a new genomic source for cancer



## **Aim**

Evaluate the rs3746444 polymorphism of miR-499 in patients with colon cancer in comparison with healthy subjects



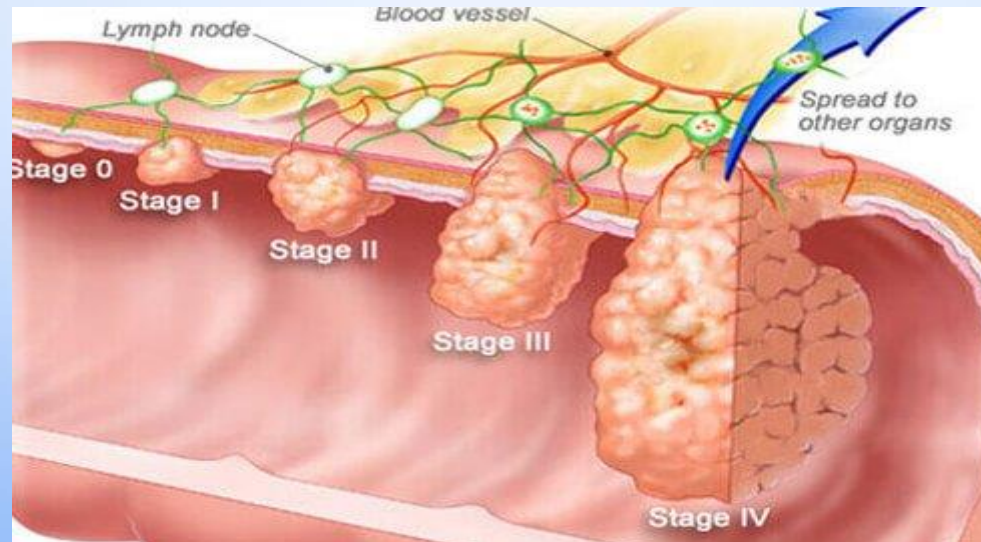
## Methods

- Case-control study
- Was conducted to investigate rs3746444 polymorphism of miR-499 in blood samples of case and control groups
- Patients with a confirmed diagnosis of cancer based on pathologic report were enrolled in the study as the case group and compared with healthy subjects
- The level of significance was considered at  $p < 0.05$



# Result

- The mean of DNA count in samples was 63.17 versus 23.51 that was significantly higher in the case group.
- The rs3746444 polymorphism of miR-499 was significantly higher in patients with cancer compared to the healthy subjects ( $P < 0.05$ ).



# Result

**Table 1.** The frequency distribution of patients based on the disease stage

<b>Frequency Disease stage</b>	<b>No.</b>	<b>%</b>
I	3	5.6
II	17	31.5
III	16	29.6
IV	10	18.5
Unknown	8	14.8

# Result

**Table 2.** The frequency distribution of patients based on the degree of tumor differentiation

<b>Degree of tumor differentiation</b>	<b>Frequency No.</b>	<b>%</b>
Poorly differentiated	2	3.7
Moderately differentiated	19	35.2
Well differentiated	10	18.5
unknown	23	42.6



# Result

**Table 3.** The Frequency distribution of patients based on the tumor area

	<b>F</b>	<b>%</b>
Colon	9	16.7
Cecum	8	14.8
Rectum	14	25.9
Anal	9	16.7
sigmoid	10	18.5
Ileum	4	7.4

# Result

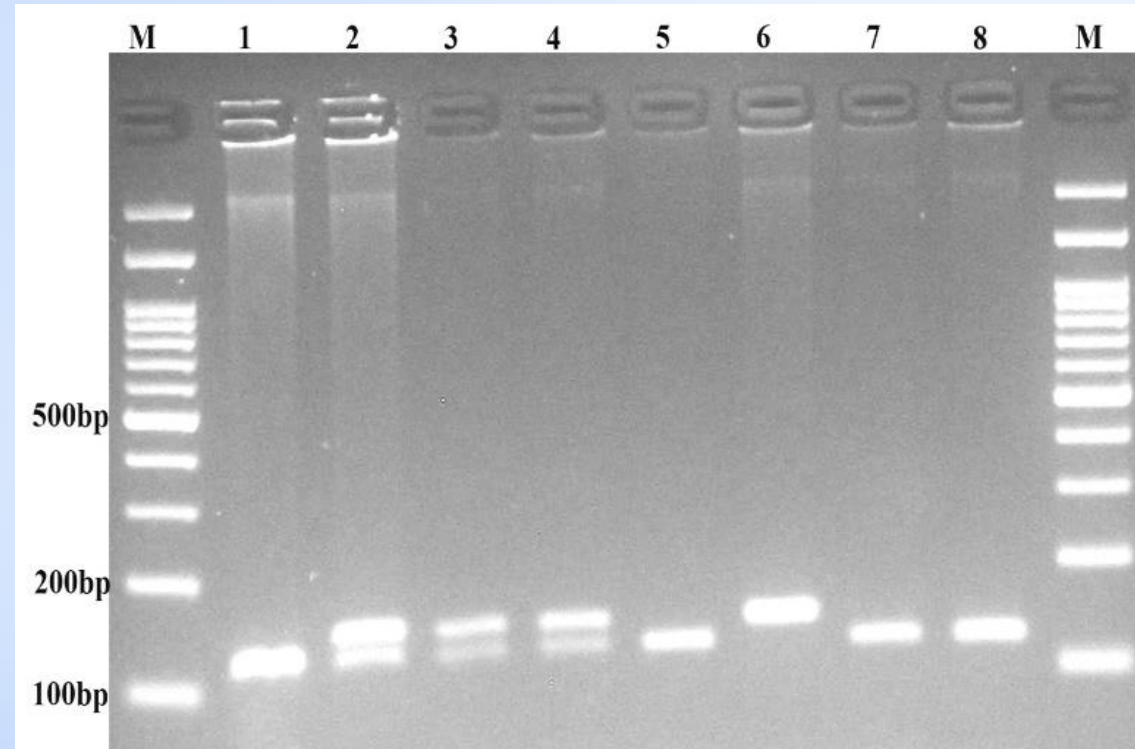
**Table 4.** Frequency distribution of patients based on the tumor metastasis

<b>metastasis</b>	<b>Frequency</b>	<b>No.</b>	<b>%</b>
Distant		13	24.1
no metastasis		35	64.8
unknown		6	11.1

# Result

**Table 5.** Frequency of polymorphism alleles in the two groups

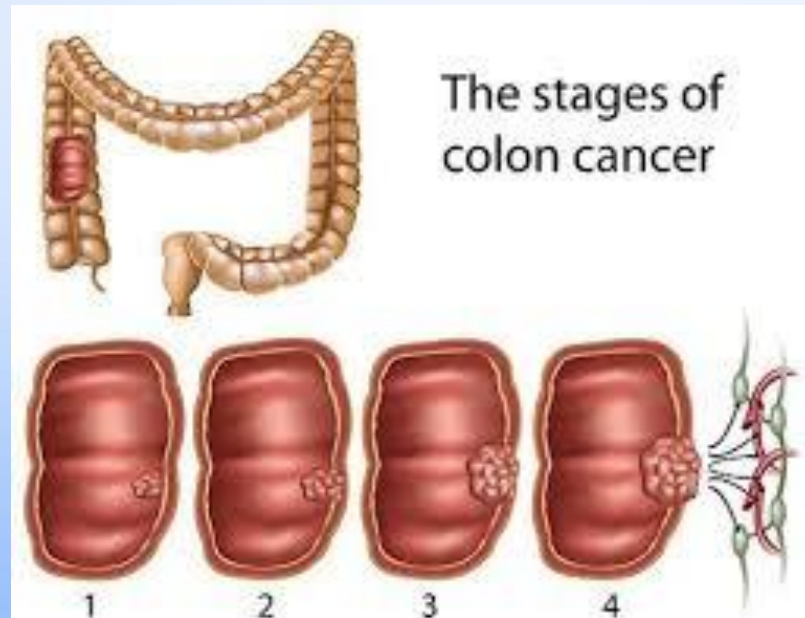
<b>Group Polymorphism</b>	<b>Case</b>	<b>Control</b>	<b>Total</b>	<b>p.v</b>
TT	30 (55.6)	24 (24)	54 (35.1)	<b>0.001&gt;</b>
TC	16 (29.6)	28 (28)	44 (28.6)	
CC	8 (14.8)	48 (48)	56 (36.4)	



**Figure 1.** PCR sample performed on the studied samples

## Conclusion

- rs3746444 polymorphism of miR-499 was significantly higher in patients with colon cancer, which indicated that people with this polymorphism had a higher risk for malignancy.





A field of pink daisies with dark centers, set against a clear blue sky. The flowers are in various stages of bloom, with some in sharp focus and others blurred in the background. The text "Thanks for your attention" is overlaid in a bold, black, serif font in the upper center of the image.

**Thanks for your attention**