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## Relationship Between Hepatitis C Virus And Cancer.

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### ABSTRACT

Cancer is the main causes of death in Iraq ,because it comes in a second one causes of death after cardiovascular diseases.The viruses are one of carcinogenesis, So the aim of this study screen different types of cancer and relationship with Hepatitis C virus.400 blood samples were collected divided into two groups: diseased group has 300 samples collected from 10 types from patients with cancer(brain cancer, lung cancer, colon cancer, bone cancer,stomach cancer, thyroid cancer ,uterus cancer, breast cancer, pancreas cancer ,prostate cancer) and tested for Anti HCV Abs by using ( EIA) technique . The results showed that the infections percent was (0%,0%, 85.71%,60%,75%,33.33%,33.33%,20%,16.66%,10%) respectively , control group has 100 blood samples and also tested for Anti HCV Abs , the result was 0.% infection percent . we conclude that HCV may related with colon cancer ,bone cancer rather than other types of cancer in this study.

.Keywords: hepatitis C, cancer, disease

## INTRODUCTION

cancer is the common disease its result from randomly division and not limited of cell , The risk of cancer due to its fast spread through the blood and lymph vessels, destroying the cell and lake its function(1).its a second death reason in the world.there are different factors causing cancer like Radiation(uv , x-ray) or chemical factors or biological factors like infection with bacteria, parasite and virus(2).

The most type of cancer caused death( lung cancer,liver cancer,colorectal cancer, stomach cancer, and breast cancer(2).the symptom of cancer infection abnormal mass(tumor) or lymphoma,ulcer,haemorrhage,hemoptysis, cough, loss of appetite , vomiting,fever, headache, loose weight,tiredness ,exhaustion , anemia.(1).

Hepatitis c virus is members of flaviviridae have 6 genotype(3), RNA virus,single strand,infected liver cells and can multiplicated in a high level in human body producing 10 trillion copies of virus(4). HCV is one of latent virus can avoid immunity then staying in the body for a long time, because many research connected 10-20% of cancer with virus and many viruses cancer are latent viruses therefore this research aimed to study the probability of relationship between infection with different types of cancer with hcv.

## METHOD

**\*studying sample:**300 blood samples are collected from diseased people have 10 types of cancer( brain cancer, lung cancer, uterus cancer, thyroid cancer, colon cancer, bone cancer, stomach cancer, breast cancer, prostate cancer, and pancreas cancer)30 samples for each one obtained from al-amal oncology hospital in Baghdad . While control group have 100 blood samples from normal people and don't have cancer. The samples are separated by centrifugation in 3000 rpm to 10 min. to have serum then distributed to eppendorf and stored in -20 C to tested.

**\* HCV Abs measuring:** microtitration plate is used to detect the presence of hcv abs by using(HCV Abs ELISA KIT) in serum by using (indirect elisa technique), from ACON company.

## RESULT

the studied include 400 samples include 300 blood samples from diseased group with 10 types of cancer (brain, lung, colon ,bone ,breast. Uterus , prostate ,pancreas ,stomach and thyroid cancer) there age ranged from (30-70) years. Then tested with to detect the presence of HCVabs in serum .the result showed :

In thyroid and uterus cancer 10 from 30 samples give positive result to hcv abs with 33.33% infection present comparatively with 20 samples showed negative results for each one.

In bone cancer 18 samples give positive results to hcv abs with 60% infection present while 12 give negative results.

In breast, pancreas and prostate cancer (6,5,3) samples showed positive results with infection presents ( 20%,16.66%, 10%) respectively and( 14,15,17) give negative results.

The colon ,stomach and bone cancer showed highly results (26,23,18) samples give positive results with infection presents( 86.66%, 76.6%, 60%) respectively, and (4,7,12) samples give negative results.

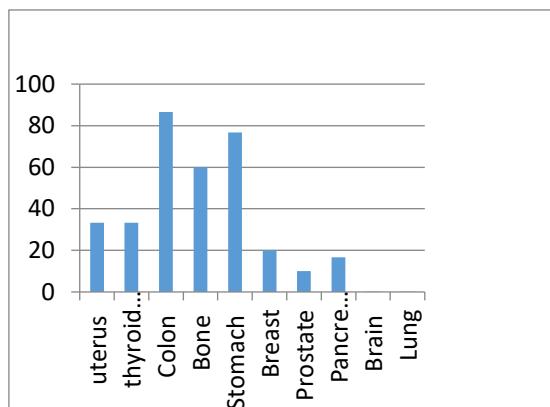
In brain and lung cancer all samples gave negative results to hcv abs with infection presents (0%). Showed table (1).

Table (1) explain the cancer types and patients numbers with infection presents with HCV

N	Cancer type	Sample number	Positive results to HCV abs	Infection presents
1	Uterus	30	10	33.33%
2	Thyroid	30	10	33.33%
3	Colon	30	26	86.66%
4	Bone	30	18	60%
5	Stomach	30	23	76.6%
6	Breast	30	6	20%
7	Prostate	30	3	10%
8	Pancreas	30	5	16.6%
9	Brain	30	0	0%
10	Lung	30	0	0%

We notice colon cancer give highly present infection then stomach, bone ,uterus , thyroid ,breast ,pancreas, prostate .while brain and lung cancer don't give any positive results.

**Diagram(1) explain the infection percent of HCV in10 types of cancer**



The results also showed 33.33% from patients group have hcv abs while 66.66% don't have hcv abs in serum.

In control group 100 sample tested and all of them give negative results to hcv abs with infection present 0%.

## DISCUSSION

present study aim to investigate the possible role of HCV in different types of cancer disease, Therefore present study included 10 types of cancer and calculated the presense of hcv Abs in patients with colon cancer higher the stomach and bone cancer with infection present ( 86.6%,76.6% , 60%) respectively, This result agreement with [6] which founed that there was high relationship with colon cancer and [7] found relationship with stomach cancer . while( uterus ,thyroid ,pancreas, prostate, breast ,brain and lung cancer) showed weakly infection present( 33.3%, 33.3%, 16%, 10% 20% ,0%,0%) respectively, These results agreement with [8] a research work that found there is no association between hcv and breast cancer while Omland and his team[6] concluded there was no association between hcv and ( breast, prostate , thyroid, and lung) but there is relationship with pancrease cancer and this disagreement with our results, this may be due to differences in type of feeding, environment and communitys. Our result of lung cancer agreement with the researcher result [9] which found there is no association between lung cancer and any genotype of hcv but dissagreement with Omland [6] who found hcv have relationship with cancer realated with (alcohole-tobacco- related cancer), The risk for cancer Tobacco exposure and alcohol those individuals associated with excess alcohol drinking and cigarette smoking which are causal risk for

cancer[10] .also we found the hcv increased risk with alcohol-tobacco- related cancer like (colon, stomach, pancreas) than hormonal cancer like ( breast ,uterus ,prostate) cancer [11].  
The hcv proteins include core, enveloped and nonstructural proteins which have oncogenic potential and play role in development of extrahepatic solid tumors in other organs of the body like blood vessels, kidney, oral mucosa. the possibility of oncogenic effect of hcv through various molecular genetics and environmental mechanisms, these mechanisms include complement- mediated tissue injury, inhibition of lymphocyte-mediated apoptosis and mutation of somatic genes like proto-oncogenes or tumor suppressor genes[10,12].

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