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RATE OF OCCURRENCE AND RISK FACTORS OF HCV AMONG FEMALES HAVING PREGNANCY

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Abstract

Objective: *The aim of this research work is to find out the rate of occurrence & risk factors of HCV (hepatitis C virus) among females having pregnancy at Nishtar Hospital Multan.*

Methodology: *This was an elaborate transverse research work conducted in the OPD of Gynecology department in Nishtar Hospital Multan from June 2018 to November 2018. A sum of total four hundred pregnant females from 16 to 45 year of age, who visited OPD for checkup were the part of this research work. The already identified patients of hepatitis C were not the part of this research work. Elaborate past history including age of the patient, parity number, factors of risk as history of blood transfusion, past history of surgeries, deliveries through vagina collected and we performed the relevant investigation, Patients on normal routine examination if discovered to be anti-hepatitis C virus positive on Immuno-Chromatography Test or ICT (ICT) procedure, their further confirmation carried out with method of ELISA. The collection of the information carried out on a well-organized Performa.*

Results: *In the duration of this research work, four hundred females in the department of gynecology underwent testing for hepatitis C, among total 6.60% (n; 27) were present as positive for antibodies of hepatitis C virus. The range of the included females was from 16 to 45 years. Total 7.90% (n: 13) females with pregnancy having hepatitis C virus positive antibodies were in the age group of 26 to 30 years of age. Out of twenty-seven positive hepatitis C virus patients, 70.30% (n: 19) were multi-gravida and 29.60% (n: 8) pregnant females were prim-gravida. Most of the females (77.0%) found with the past infections history.*

Conclusion: *There is very remarkable occurrence of infection of HCV among females having pregnancy in our setting. The most probable prompting factors were transfusion of blood, surgery & injection.*

Keywords: *Multi-Gravida, Hepatitis C, Pregnancy, Liver Cirrhosis, Hepatocellular Carcinoma, Mortality, Antibodies, ELISA.*

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INTRODUCTION:

The infection of HCV is very serious issue of health in the whole world. These diseases can be acute or chronic from mild illness to severe complications and lasting from some days to illness of whole life as liver cirrhosis, hepatocellular carcinoma & mortality. The transmission mode is actually parenteral & vertical. World health organization guesstimates the occurrence of HCV infection as 3.0% in the population of the world with greater than three million reported new patients, showing an important reason of the cancer of liver and liver transplantation [1]. In our country Pakistan, the occurrence of infection of HCV ranges from 8.0% to 15% in the population from different regions of the country [2]. In our country Pakistan, about ten million populations available with infection of HCV within predictable 160,943,000 populaces [3]. Being a sensitive group, females with pregnancy have propensity to acquire this infection [4]. The occurrence of HCV infection in period of pregnancy was the part of many works and reported a range of this occurrence from 3.270% to 8.90% [5]. The blood to blood contact id the reason of the transmission of the infection [6].

These virus has the ability to complicate the outcome of the pregnancy and it is also the main reason behind high mortality rate [7]. In the countries with low resources, where there is deficiency of education & orientation of the research, the onset and development of the factors of hepatitis C virus are not understandable by all persons [8]. Various risk factors of these infections include transfusion of the products of blood, injury at work place, surgery, used injection & vertical transmission [9]. The main aim of this research work was to determine the rate of occurrence of HCV and its associated factors in the females with pregnancy.

METHODOLOGY:

This was an elaborate transverse research work carried out in OPD of gynecology department of Nishtar Hospital Multan from June 2018 to November 2018. The ethical committee of the hospital gave the approval to conduct this research work. The calculation of the size of sample carried out with the utilization of the G Power Software V 3.0.10. Four hundred females with pregnancy were the part of this research work. All the females having the age of sixteen to forty-five years regardless of their pregnancy duration were the part of this research work. The females having no pregnancy or having already diagnosed HCV infection were not the part of this research work.

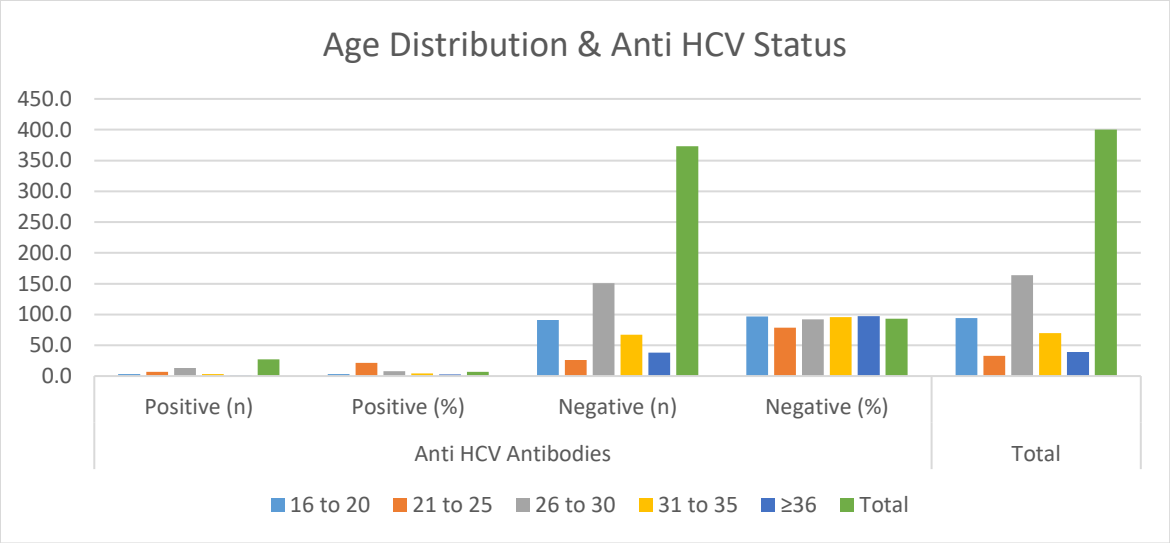
All the females having pregnancy on their very first visit in the hospital became the part of this research work. Elaborated information as age of the female, parity, various risk factors as transfusion history, and surgeries in the past & normal deliveries through vagina collected from every participant. The confirmation of the presence of HCV positivity carried out by ELISA after the evidences of ICT method. The collection of the information carried out on a well-organized Performa. We took the consent from every participant. SPSS V. 20 was in use for the analysis of the collected information. Mean and SD were in use for the presentation of the continuous data. Frequencies were in use for the presentation of the categorical variables.

RESULTS:

In the duration of this research work, testing of total four hundred females with pregnancy for the antibodies of hepatitis C carried out with the utilization of ICT. This test gave the positive results in thirty-nine patients, among these thirty-nine patients the identification of the infection of HCV was confirm in 6.60% (n: 27) patients after the utilization of the method of ELISA. The range of the pregnant females was from 16 to 45 years. Most of the pregnant females with antibodies of HCV were in the age group of twenty-six to thirty year of age with thirteen patients, followed by the patients having age from 21 to 25 years with amount of seven patients (Table-1).

Table-I: Age Distribution of Study Participants and Anti-HCV Status

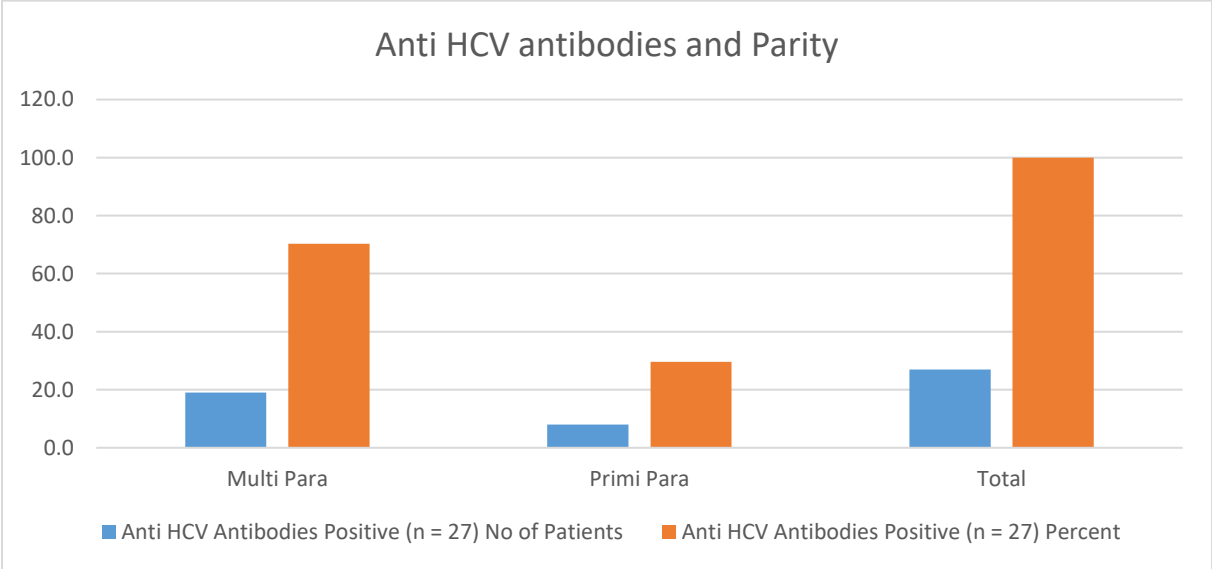
Age Group (years)	Anti HCV Antibodies				Total
	Positive (n)	Positive (%)	Negative (n)	Negative (%)	
16 to 20	3.0	3.20	91.0	96.80	94.0
21 to 25	7.0	21.20	26.0	78.80	33.0
26 to 30	13.0	7.90	151.0	92.10	164.0
31 to 35	3.0	4.30	67.0	95.70	70.0
≥36	1.0	2.60	38.0	97.40	39.0
Total	27.0	6.80	373.0	93.30	400.0



Out of twenty-seven positive patients for HCV, 70.30% (n: 19) pregnant females were multi-gravida and 29.60% (n: 8) were prim-gravida (Table-2). Risk factor's distribution in the positive patients of HCV is available in Table-3.

Table-II: Showing Anti Hepatitis C with Parity Status

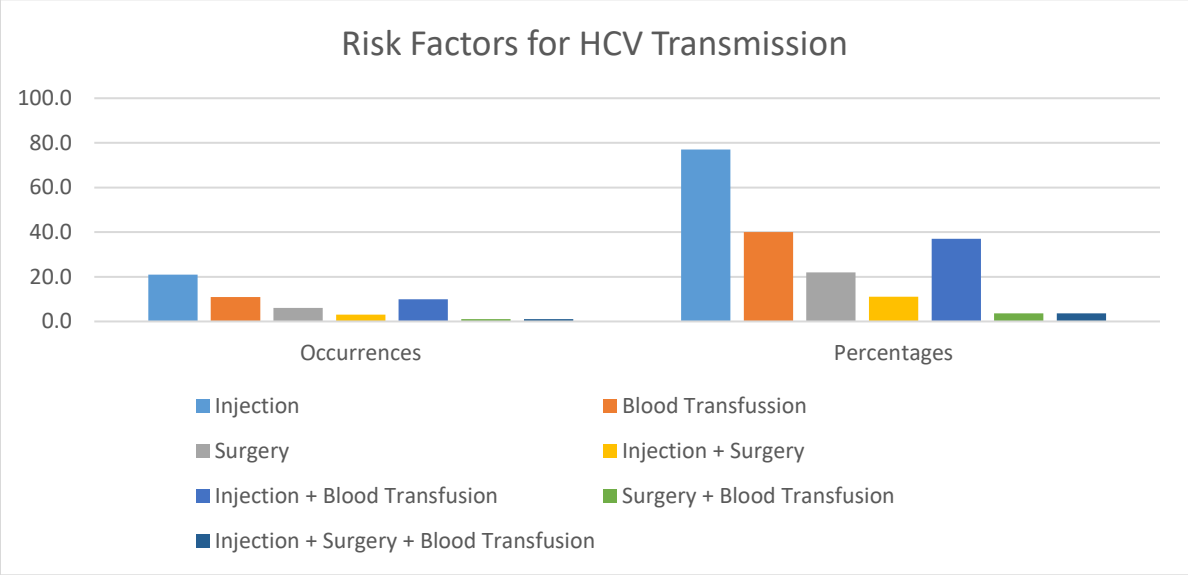
Parity	Anti HCV Antibodies Positive (n = 27)	
	No of Patients	Percent
Multi Para	19.0	70.30
Primi Para	8.0	29.60
Total	27.0	100.00



Injection use was available as most important factor of risk available in 77.0% (n: 21) patients. The past background of the transfusion of the products of blood was present as the 2nd most frequent factor available in 40.0% (n: 11), whereas the surgery background was available in 22.0% (n; 6) patients. Majority of the patients found with more than single factor of risk, 11.10% (n: 3) patients found with the history of surgery as well as injection usage & 3.50% 9n: 1) patient was available with the background of surgery, transfusion of blood and injection utilization.

Table-III: Risk Factors for HCV Transmission in Hepatitis C Patients (27)

Risk factors for HCV transmission	Occurrences	Percentages
Injection	21.0	77.00
Blood Transfusions	11.0	40.00
Surgery	6.0	22.00
Injection + Surgery	3.0	11.10
Injection + Blood Transfusion	10.0	37.00
Surgery + Blood Transfusion	1.0	3.70
Injection + Surgery + Blood Transfusion	1.0	3.70



DISCUSSION:

The infection of HCV is endemic in the countries which are under development like our country Pakistan. In accordance with the medical association of Pakistan (2003), the HCV antibodies were available to be twenty times greater in the countries which are under development in comparison with the countries which are fully develop ones [10]. The total occurrence of this infection in our country Pakistan ranges from 4.0% to 25.0% [11]. The occurrence of anti-HCV antibodies in the females with pregnancy is 6.60% in this research work. The research works of Shah and Shabbir conducted in 2002 stated that the range of the occurrence of HCV infection was from 0.70% to 20.0% in females having pregnancy [12].

Shirazi displayed in his research work, the occurrence of HCV infection as 9.20% [13]. Kumar in the year of 2007 concluded the occurrence of hepatitis C infection among females with pregnancy as 1.030%, very much comparable with the findings of various research works of Pakistan [14]. In a research work of Japan conducted on high sample size, the occurrence rate was 7.10% [15], very much comparable with the study conducted in Turkey [2]. e in current research work, most vulnerable age group was from 26 to 30 years which is similar to the research work of Gul N (from 25 to 35 years) [17]. A Swiss report also concluded the same group [18] while Khattak ST concluded the age group from 30 to 39 years with high occurrence [19]. Duru MU stated the very high occurrence of HCV among patients having age from 32 to 34 years [20]. Most of the females in the research work of Awan & Ali were multi-gravida [21, 22].

Janjua stated the overuse of injection as very common in our country Pakistan which can lead to poor medical control [23]. Farhana concluded the surgery history as

the most important HCV infection's risk factor [24]. A study from Islamabad concluded the transfusion of blood as the most common risk factor [25]. A research work from United States of America concluded the usage of drug as the most common factor of risk for HCV [26].

CONCLUSION:

The findings of this research work concluded that, the occurrence of HCV infection among females with pregnancy is very high. Most prompting risk factors are transfusion of blood, surgery & injection.

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