ORIGINAL ARTICLE

Prevalence and Risk Factors of Hepatitis C in Pregnancy

SABA ILYAS A. MALIK[1], HUMAIRA DURRANI[2], WAJIHA RIZWAN[3], AYESHA SAIF[4], AMBREEN NASIR[5]
[1-3]Assistant Professor, Consultant Obstetrician and Gynecologist, Rahbar Medical & Dental College, Lahore
[4]Assistant Professor, Obstetricis and Gynecology, Lahore Medical & Dental College/Ghurki Trust Teaching Hospital, Lahore
[5]Senior Registrar, Obstetrics and Gynecology, Rahbar Medical & Dental College/Punjab Rangers Teaching Hospital, Lahore
Correspondence to: Dr Saba Ilyas Malik, Email: dr.sabailyasmalik@gmail.com Contact 03342811178,

ABSTRACT

Aim: Uncovering the prevalence of, and risk factors for Hepatitis C infection among gravid women attending Punjab Rangers Hospital Lahore.
Methods: A cross sectional study was conducted by random selection of antenatal patients visiting Obs. & Gynae OPD at Punjab Rangers Teaching Hospital. After taking informed consent, serological test to detect Serum antibodies against HCV was performed. Positive individuals were confirmed via PCR test for HCV RNA. The patients who were then confirmed positive were given a self generated Questionnaire for collection of data regarding risk factors for HCV infection. Diagnosed cases were excluded from study. A total of 300 pregnant women of age 16-45years who visited the antenatal clinic were selected..
Results: A study was conducted on 300 pregnant women within the age range of 16-45 years, for 6 months. Out of which, positivity for anti HCV antibodies was 29 (9.7%), of which 14 (10%) were between 26-30 years of age. Multigravidas comprised 21 (72.4%) of the positive pool. On analyzing the questionnaire it was found that 21(72.4%) patients were using IV injections, a major risk factor for contracting the infection.
Conclusion: In our setup there is high prevalence of viral infection in pregnant women. The possible risk factors are surgery, infections and blood transfusion.
Keywords: Hepatitis C, pregnancy, serum antibody

INTRODUCTION

Hepatitis C is recognized as a universal health issue. It is a single strand RNA virus, which is blood borne, accounting for 15-20% of collective cases of viral Hepatitis. It has slow progression, leading eventually to cirrhosis and hepatocellular carcinoma[1]. It transmits primarily via vertical and parenteral route. The neonates infected from birth, have a high risk of severe liver disease later in life [2].

According to WHO the hepatitis C prevalence is 3% approximately of the world population, 3million new cases annually, being the principle cause of liver cancer and liver transplant surgeries. Pakistan has a high incidence of 8-15% Hepatitis C among general population, varying in different parts of the country[3]. This viral hepatitis is transmitted mainly by contact with blood and blood products[4]. Viral hepatitis increases the risk of maternal mortality[5]. The prevalence of positivity is directly proportional to the exposure to risk factors which are linked to the infection, predominantly, history of blood transfusion, surgeries and injections[6].

METHODS

It is a cross sectional descriptive study which is conducted at Punjab rangers hospital, Rahbar medical and dental college in Gynae/Obs OPD from 1st June 2020 to 30th December 2020. The sample size was 300 cases selected through non probability convenience sampling. Gravid women between the ages of 16-45 years were selected. Exclusion criteria being non gravid women and hepatitis C positive cases. From the first visit, the selected patients were tested via ICT method and when positive, confirmed via ELISA. A self-generated questionnaire was used for data collection after taking informed consent. Analysis of data was done using SPSS version 23.0.

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RESULTS

During six months of study, 300 pregnant patients were tested for specific anti HCV antibodies by ICT. Positive results were 42, 29 of which were eventually confirmed by ELISA.

HCV Positivity among different age groups

Age range (years)	Positivity	Negativity	Total
16-20	3 (4.2%)	67 (95.7%)	70
21-25	7 (35%)	13 (65%)	20
26-30	14 (10%)	126 (90%)	140
31-35	4 (10%)	36 (90%)	40
≥ 36	1 (3.3%)	29 (96.6%)	30
Total	29 (9.7%)	271 (90.3%)	300

Parity Status with positive Anti HCV (n=29)

Parity	Positive
Multigravidas	21 (72.4%)
Primigravidas	8 (27.5%)
Total	29 (100%)

Risk Factors for HCV Infection (29)

Risk factors for HCV infection	Frequency
IV Injections	21 (72.4%)
Blood transfusion	11 (37.9%)
Surgery	6 (20.6%)
Combined: IV Injection + Surgery	3 (10.3%)
Combined: IV Injection + Blood transfusion	10 (34.4%)
Combined: Surgery + Blood transfusion	1 (3.4%)
Combined: IV Inj. + Surgery + Blood transfusion	1 (3.4%)

The women of age 16-45years were included, patients with anti HCV positive antibodies in 26-30 years of age group were 14 and 7 in age group 21-25years out of 29 positive patients 21(72.4%) were multigravida and 8 were primigravida (27%).

Use of injections is the major risk factor for the hepatitis C infection up to 21%,second most common cause is blood transfusion history up to 11%.1% of patients have more then two causes for transmission of infection.

DISCUSSION

In many developing countries like Pakistan, Hepatitis C has become endemic. Incidence in Pakistan ranges from 4% to 25%[7], prevalence of viral hepatitis C infection being 9.6% in our study.

On reviewing the various studies conducted across Pakistan, Shah and Shabbir in 2002 reported the prevalence of HCV ranging from 0.7% - 20% among pregnant patients [8]. Study by Kausar Jillani in Karachi over 3months showed prevalence of 6.6% which is less than our study [9]. One study conducted by C.ward on women attending an inner London obstetrical department showed prevalence of 0.8% [10]. In 2009 July by Zelnia Bcoster presented HCV &HIV showing prevalence of 0.15% [11]. This is comparably quite low prevalence rate as compared to many studies which are conducted in Pakistan. In studies conducted in Japan, comparable to our study, the prevalence of HCV was 7.1%. Similar studies conducted in Nigeria (3.6%), Cameron (1.9%), Egypt (6.4%) and Ethiopia (1.3%)[12].

Current study shows that majority of positive patients were in age group of 26-30 years, akin to the Gul N et al study carried out at Ayub medical college [13].Similar results were presented by swiss study whereas study carried out in Swat by Khattak ST showed results of high prevalence of hepatitis C in age of 30-39years[14]. In 2009 study by Duru MU reveals the results with high prevalence in age group of 32-34 years[15]. In present study we carried maximum of patients who were anti HCV antibodies positive were multigravidas equivalent to the studies conducted by Awan and Ali et al[16].

Our study concluded that hepatitis C transmission was maximum in 72.4% patients who had taken Intravenous injections secondly history of blood transfusion and in past surgeries were found as risk factor seen in 37.9% and 20.6% respectively. Parenteral medications with used syringes and injections overuse is very common in Pakistan studied by Janjua et al in 2005 Janjua et al . Data from other studies provide evidence to support the finding of poor control of infection and there is failure to follow universal precautions at first level of health care facilities[17]. Farhana et al concluded that surgery is the main risk factor for HCV infection[18]. Similar study carried out in Shifa Hospital Islamabad found that previous surgeries and blood transfusions are main risk factors[19]. One study carried out in India in 2007 didn't show any evidence of risk factors in 62% of pregnant women[20]. Parenteral drug intake was highest risk factor for the prevalence of hepatitis C virus cases, reported in study in USA[21].

Anti HCV antibodies screening is not done routinely in developed countries but due to deficiency of health care facilities and poor knowledge of health care personals and high prevalence of HCV in developing countries it is routinely carried out and then confirmed with Elisa. Early and increased awareness about hepatitis C is needed for prevention and treatment.

CONCLUSION

Our study concluded that there is high prevalence of this deadly virus in our set ups due to the risk factors of used injectable syringes, surgeries and blood transfusions.

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