Prevalence of Hepatitis C Virus Infection in Egyptian Patients with Rheumatoid Arthritis

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SESSION INFORMATION

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Session Title: Rheumatoid Arthritis – Clinical Aspects Poster III: Comorbidities

Session Type: ACR Poster Session C

Session Time: 9:00AM-11:00AM

Background/Purpose:

HCV is a major public health problem affecting approximately 2-3% of the world's population with about 130-150 million people chronically infected worldwide. Egypt has the highest HCV prevalence in the world, estimated to be 15% in some studies. Despite this unique HCV epidemic, few studies were done to estimate the prevalence of HCV in Egyptian patients with rheumatoid arthritis (RA). The aim of the current study was to estimate this prevalence.

Methods:

This was a cross sectional study that included 300 Egyptian patients diagnosed with RA according to the ACR/ EULAR 2010 classification criteria. Patients were enrolled from the rheumatology outpatient clinics at Ain Shams University Hospitals and Ahmed Maher Teaching Hospital, Cairo, Egypt, from June 2015 till February 2017. Patients < 18 years old, with end stage renal disease on dialysis, or with other connective tissue diseases were excluded from the study. All participants were tested for HCV antibodies using 3rd generation ELISA and positive patients were tested for HCV RNA by Real Time PCR. DAS28 was used for assessment of RA disease activity.

Results:

HCV antibodies were detected in 15% of patients (45/300), of which 80% were positive for HCV RNA (36/45). The ratio of RNA to antibody is higher compared to general population (66%). Prevalence of HCV antibodies was higher in females than males (15.3% and 12.5%, respectively) and in patients living in rural areas than those living in urban areas (16.7% and 14.6%, respectively). HCV prevalence increased sharply with age to reach 50% in patients older than 60 years (12/24). There was a

statistically highly significant increase (p<0.001) in the mean age and RA disease duration in the HCV antibodies positive group (51.1 vs. 41.2 and 11.7 vs. 5.2 years, respectively). According to DAS28; only 33 patients (11%) were in remission. The majority of patients (62.7%) had high disease activity. There was no statistically significant difference (p>0.05) in DAS28 between HCV antibodies positive and negative patients.

While the majority of the patients used a combination of different DMARDs, 14% used a single drug (42/300). The medications used for treatment of RA in the studied patients are shown in **Table (1)**. There was a statistically highly significant decrease in the use of NSAIDs and methotrexate (p<0.001), while there was a statistically highly significant (p<0.001) increase in the use of sulfasalazine in patients positive for HCV antibodies.

Conclusion:

We estimated that the prevalence of HCV antibodies in Egyptian patients with RA is 15%. Given this exceptionally high prevalence, we recommend screening of all RA patients in Egypt for hepatitis C at diagnosis and before starting treatment. Our results also suggest that RA patients have a lower spontaneous clearance of the initial HCV infection.

Table (1): Characteristics of the total study population and HCV antibodies positive and negative patients:

	All patients (n=300)	HCV Antibodies positive group (n=45)	HCV Antibodies negative group (n=255)	*P-value*
Sex				
Female	268 (89.3%)	41 (91.1%)	227 (89.0%)	0.68
Male	32 (10.7%)	4 (8.9%)	28 (11.0%)	
Age (years)				
Range	18 – 89	24–72	18 – 89	**<0.001**
Mean ± SD	42.7 ± 12	51.1 ± 12.6	41.2 ± 11.5	
Address				
Urban	240 (80%)	35 (77.8%)	205 (80.4%)	0.69
Rural	60 (20%)	10 (22.2%)	50 (19.6%)	
RA disease duration (Years)				

Range	1 – 45	0 – 45	0 – 25	**<0.001**
Mean ± SD	6.2 ± 7.4	11.7 ± 12.8	5.2 ± 5.5	

DAS28 Score

Range	0.97 – 9.27	1.85 – 8.96	0.97 – 9.27	0.26
Mean ± SD	5.6 ± 2	5.3 ± 2.2	5.7 ± 2	

Medications

NSAIDs	186 (62%)	13 (28.9%)	173 (67.8%)	**<0.001**
Corticosteroids	278 (92.7%)	43 (95.6%)	235 (92.2%)	0.42
Methotrexate	170 (56.7%)	14 (31.1%)	156 (61.2%)	**<0.001**
Leflunomide	122 (40.7%)	19 (42.2%)	103 (40.4%)	0.82
Sulfasalazine	48 (16%)	18 (40.0%)	30 (11.8%)	**<0.001**
Hydroxychloroquine	264 (88%)	42 (93.3%)	222 (87.1%)	0.23
Biologic DMARDs	0 (0%)	0 (0%)	0 (0%)	

Rheumatoid Factor

Negative	122 (40.7%)	8 (17.8%)	114 (44.7%)	**<0.001**
Positive	178 (59.3%)	37 (82.2%)	141 (55.3%)	

Anti-CCP (n=128)

Negative	70 (54.7%)	12 (57.1%)	58 (54.2%)	0.80
Positive	58 (45.3%)	9 (42.9%)	49 (45.8%)	

Other Laboratory tests

Hemoglobin (mg/dl)	12 ± 1.5	12.5 ± 1.6	11.9 ± 1.5	**0.015**

WBCs (x10^3 cells/mm^3)	7.1 ± 2.44	7.6 ± 2.2	7.1 ± 2.5	0.19
PLT (x10^3 cells/mm^3)	301 ± 91.76	293 ± 111	302 ± 88	0.54
ESR (mm/hour)	45.8 ± 25.55	45.8 ± 24.4	45.8 ± 25.8	0.99
ALT (IU/ml)	21.1 ± 10	27.2 ± 17.7	20 ± 7.5	**<0.001**
AST (IU/ml)	21.2 ± 9.3	29 ± 16.2	19.9 ± 6.6	**<0.001**

Disclosure: D. Abdel Mohsen, None; **S. H. Hamza**, None; **N. A. Morshedy**, None; **F. D. Miller**, None; **M. S. Elzalabany**, None.

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