Incdence of Rheumatoid Arthritis [2001 to 2011]

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ABSTRACT:

BACKGROUND :

The incidence of rheumatoid arthritis[RA] varies from country to another which not depend on genetic bases alone but can explained by environmental exposure and genetic and environmental interaction, area of military conflict ,there was stress induced pathway that elevates the risk for rheumatoid arthritis, in Iraq rheumatoid was 1% of population in 1975.

OBJECTIVE:

To evaluate incidence of **RA** in Babylon –Iraq from 2001-2011

PATIENTS AND METHODS:

This study was done to examine the incidence of ***RA*** in Babylon between 2001-2011 by Retrospective cohort study in Merjan Teaching Hospital ,Rheumatology unit .Data included sex .birth year ,residency and latex test , from 2001 to 2011.All patients were diagnosed as Rheumatoid Arthritis according to American College of Rheumatology ACR 1987revised criteria of RA .the numbers of patients of **RA** who were received DMRADs included methotrxate therapy were recorded each year and incidence of each year was found then the cumulative incidence was calculated.

RESULTS:

There were1039 patients with rheumatoid arthritis from 53786 patients in rheumatology unit. 50.1% living in urban area while 49.9% in rural area. The incidence in 2001 was 1.60 while in 2011 was 3.02 for the same population and the cumulative incidence in 2011 was22.74. Latex test was 52% in2001 while in2011 was 58% in rheumatoid patients in the same year. The P value for age mean difference between female and male was [0.009].

CONCLUSION:

The incidence of RA was increasing from 1.60% in 2001 to 3.02% in 2011 and the cumulative risk wasb22.74% in Babylon –Iraq.

KEY WARDS: rheumatoid arthritis.

INTRODUCTION:

The incidence and prevalence of Rheumatoid Arthritis vary sustainably between geographical areas and this cannot be explained by genetic factors alone, rather than this variability can explained by environmental exposure [(1)]. The prevalence of rheumatoid arthritis is between 0,5% to 1% in European and North American populations, Asia had the lower rate of disease[0.2-0.3]. %].Some Native American populations had a remarkably high prevalence more than [5%] [(2)]. The etiology is unknown, persons who exposed to stressful situations, putting at higher risk for stress related medical conditions like area of military conflict e.g. [Iraq] [(3).] In Iraq the prevalence survey for rheumatoid arthritis was done during the summer of 1975 in persons aged 16 and over in areas of Iraq ,definite Rheumatoid arthritis was observed in 1% 0f population where in Babylon province was [1.02%],the hands were more effected than feet in that study [(4)]

AIM OF THE STUDY:

To evaluate incidence of **RA** in Babylon –Iraq from 2001-2011.

PATIENTS AND METHODS:

Retrospective cohort study was conducted in Merjan Teaching Hospital ,Rheumatology Unit by evaluating of medical records files at base line and for fallow up for patients with diagnosis of Rheumatoid arthritis for period between January 2001 to December 2011 .Data included sex .birth year ,residency and latex test , all patients were diagnosed as RA according to American College of Rheumatology ACR 1987 revised criteria of RA [(14)],the number of all patients in each year was reported according to their age and area of residency either urban or rural area .The age of each patient at time diagnosis of RA and latex test were also recorded, the medical record for each patient

Babylon Collage of Medicine.

was start only when viral screen for hepatitis B and C and Chest X-ray also done and there was no contraindication to start DMARDs. This study included only patients that receive their DMARDs treatment from government hospital, and did not involve those with rheumatoid arthritis that treated by private out patients clinic. The numbers of patients who visit the Rheumatology Unit for receiving medical care of each month in all years were recorded then collected for each year separately .These numbers were obtained from statistical department records. The incidence of rheumatoid arthritis for each was obtained then the cumulative incidence of all years was obtained. The separate incidence for female and male patients also was obtained.

RESULTS:

The total patients [53786]patients ,those whom attended to Rheumatology Unit in Merjan Teaching Hospital and the patients whom diagnosed as Rheumatoid Arthritis were1039patients[1.93%].The numbers of female patients were853[82.09 %]and the numbers of male patients were186[17.9%],the latex test was positive in 58 % of all patients whom diagnosed as Rheumatoid arthritis according to ACR revised criteria Table[1]. 521[50.1%] patients lived in urban area and518 [49.9%] in rural area. The number of rheumatoid arthritis patients diagnosed in2001 was 75 [7.2%] patients and it reach in 2011[164][15.78%] with variation between [tab2] While T he incidence of RA patients in [2001] was 1.60 but in[2011] was3.02, in same sample of the patients in the same area. The cumulative incidence was [1.60] in 2001 and reach to 22.74 in 2011[Tab3]. The liner regression of the incidence was shown in fig [1], and incidence value for each year was shown in Tab[3]The female mean age was 44,8year, for male mean age was 40.8yearsand there was stastical significant difference between female and male mean ages [0.009] Tab[4].

Latex test was positive in [52%]in year 2001 and 64% at 2011 .The least number of rheumatoid patients was recorded in 2004 Tab[1] .

Table 1: Total number of rheumatoid patients including both sex and latex test % for each year from number of Rheumatology Unit in Merjan Teaching Hospital.

Latex test	Male rheumatoid	Female rheumatoid	Rheumatoid patients total	Totoal patients	year
52%	12[16%]	63[84%]	75[1.23%]	4627	2001
54%	10[18.2%]	45[81.8%]	55[1.3%]	4013	2002
53%	11[15.6%]	32[74.4%]	43[0.9%]	4563	2003
60%	12[29.3%]	29[70.7%]	41[0.49%]	8353	2004
58%	13[15%]	74[85%]	87[1.45%]	5971	2005
57%	32[13.1%]	107[76.9%]	139[2.76%]	5033	2006
63%	18[20.5%]	70[79.5%]	88[2.94%]	2988	2007
53%	15[15.8%]	80[84.2%]	95[2.78%]	3413	2008
58%	9[8.3%]	100[91.9%]	109[2.54%]	4285	2009
63%	31[14.7%]	112[85.3%]	143[2.83%]	5039	2010
64%	32[14.4%]	141[85.6%]	164[3%]	5424	2011
58%	186[18%]	853[82%]	1039[1.93%]	53786	total

Table 2: Mean age for female and male patients with rheumatoid and their residency [urban or rural area for each year.

Mean male age\yr	Mean female age\yr	Urban	Rurual	Rheumatoid patients	Year
50.6	54.9	40[53.4%]	35[46.6%]	75	2001
40.5	44.7	25[45.5%]	30[54.5%]	55	2002
42.2	40.6	21[47%]	23[53%]	43	2003
34.6	43.3	26[63.5%]	15[36.5%]	41	2004
40.7	44.6	50[47.5%]	37[42.5%]	87	2005
36.2	46.4	65[45.6%]	74[54.4%]	136	2006
40.7	44.7	43[49%]	45[51%]	88	2007
38.5	43.6	44[46.4%]	51[53.6%]	95	2008
36.5	44.5	59[53.3%]	50[46.7%]	109	2009
39.4	43.6	70[49%]	73[51%]	143	2010
40.3	42.7	79[48.2%]	85[51.8%]	164	2011
40.01	44.8	521[50.2%]	518[49.8%]	1039	total

Table 3: Number of rheumatoid patients from total patients for each year and the incidence and cumulative incidence for the same year between [2001 – 2011].

year	RA patients	total patients	incidence in same year	cumaltive incdence
2001	75	4627	1.60	1.60
2002	55	4013	1.37	2.97
2003	43	4563	0.94	3.91
2004	41	8385	0.49	4.4
2005	87	5971	1.45	5.85
2006	139	5033	2.78	8.63
2007	88	2988	2.94	11.57
2008	95	3413	2.78	14.35
2009	109	4285	2.54	16.89
2010	134	5039	2.83	19.72
2011	164	5424	3.02	22.74

Table 4: Mean age for patients and STD deviation and the P value for female and male rheumatoid patients.

Sex	Mean	Std. Deviation	P value
female	44.872727	3.6310029	.0090000
male	40.018182	4.2068559	

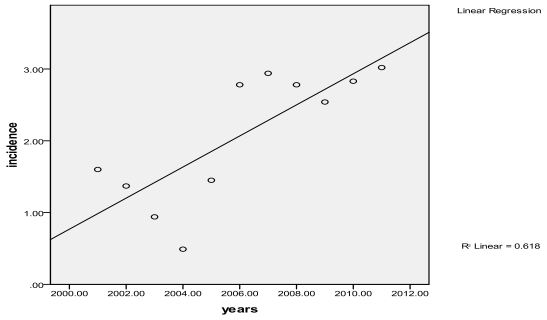

Fig 1: Show linear regression of the incidence of rheumatoid cases between 2001 to 2011

DISCUSSION:

This study was done to see if there increased in the incidence of rheumatoid arthritis in Iraq-Babylon province because in 1975 there was study showed the incidence of rheumatoid arthritis was 1% in Iraq as whole and in Babylon province was 1.02% [(4)].and because Iraq was exposed to different stressful conditions which might result in different health problem including rheumatoid arthritis and was associated with change care system ,in the study the incidence of rheumatoid arthritis was 1.93%. this study used the ACR criteria for diagnosis of reported cases while the study that done by Alrawi ,etal at 1975 depended on radiography and Rheumatom test that yields positive or negative test [(4)].Another study done in Minnesota ,USA between 1995-2007 showed increase in the incidence of rheumatoid arthritis and the reason for that was not known but environmental factors might play a role (1) ,and prospective study done for rheumatoid arthritis in relation to deployment in support of Iraq and Afghanistan ,there was higher cumulative incidence of self reported rheumatoid arthritis in compared to previous result in the US population[0.24-0.6per 1000 person-year] [(7)].This study the cumulative incidence change with years of study ,in the US population the increased incidence between 1995-2007 was limited to women and the environmental factors may play a role [(1)]as in this study the rise of new cases of rheumatoid were female sex .The breast feeding might consider as protection against development of rheumatoid arthritis ,there was study done in Iraq during 1998 showed that there was high prevalence of breast feeding and increased in the duration of breast feeding in comparison with previous study done in Iraq[(16)].but there were different environmental factors that might play

role in development of rheumatoid arthritis specially in women ,these include infections ,immunization ,obesity and socioeconomic state [17,18].the smoking is risk factor for development of rheumatoid arthritis ,a study done in Iraq in 2008 showed that the smoking rate in Iraqi girls was twice than adult female in Iraq ,this finding may indicate smoking and other factors might play a role in increase in the incidence of rheumatoid arthritis [19].the recording and registration system of new cases of rheumatoid arthritis should be improved because the incidence of the disease is increasing and new emerging drugs for the management of the disease which need good data for patients and side effects of that may develop during their usage.

CONCLUSION:

Incidence of **RA** was increasing from 1.60%in 2001 to 3.02% in 2011 and the cumulative risk was 22.74%in Babylon-Iraq.

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