



“Prevalence Of Rheumatoid Arthritis In Males And Females Around Guntur District, Andhra Pradesh.”

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ABSTRACT

Rheumatoid arthritis (RA) is an autoimmune disease that can cause joint pain and damage throughout the body. The joint damage that rheumatoid arthritis causes usually happens on both sides of your body. So if a joint is affected in one of your arms or legs, the same joint in the other arm or leg will probably be affected, too. This is one way that doctors distinguish RA from other forms of arthritis, such as osteoarthritis. Rheumatoid arthritis (RA) is two- to three-fold more frequent in women than in men and a strong association with sex hormones has been demonstrated. There is strong evidence that autoimmunity is under genetic control, and genes in sexual chromosomes can play a role in supporting the female prevalence.

Key Words-Rheumatoid arthritis (RA), C reactive protein(CRP) and Rheumatoid factor(RF).

INTRODUCTION

Rheumatoid arthritis (RA) (1) is a chronic autoimmune disease that affects approximately 0.5–1.1% of the adult population (2). A characteristic of the disease is symmetrical inflammation of peripheral joints often resulting in progressive destruction of articular and peri-articular structures (3). The clinical features of RA are pain, stiffness, reduced range of motion, muscle weakness, and fatigue (4), which often leads to a slow deterioration of function. Consequently, patients experience difficulties with daily activities, reduced health-related quality of life, and often impaired work ability (5).

Rheumatoid arthritis is a chronic inflammatory disorder that can affect more than just your joints. In some people, the condition also can damage a wide variety of body systems, including the skin, eyes, lungs, heart and blood vessels(6). RA is a chronic progressive disease, and without treatment with disease-modifying anti-rheumatic drugs (DMARDs), patients will develop joint damage, deformities, disability, and increased mortality (7).

RESULTS

Total patients: 50numbers

Patients: 35numbers

Control: 15numbers

Table no:1 Socio demographic factors of the persons

AGE	30-60 Years	
GENDER	MALE	25
	FEMALE	25
EDUCATION	PRIMARY	33
	SECONDARY	17
RHEUMATOID ARTHRITIS	PATIENT	35
	NORMAL	15
SOCIAL STATUS	POOR	36
	RICH	14
SMOKING STATUS	SMOKERS	20
ALCHOL CONSUMPTION	DRINKING	16
FOOD HABITS	POOR FOOD	20



Figure-1 C -REACTIVE PROTEIN AGGULUTINATION

C-reactive protein dilutions

positive result for 1:2, 1:4, 1:8, 1:16, 1:32, 1:64 dilutions based on the highest agglutination in the patient's serum



Figure-2 RHEUMATOID FACTOR AGGULUTINATION

Rheumatoid factor agglutination:

positive result for 1:2, 1:4, 1:8, 1:16, 1:32, 1:64 dilutions based on the highest agglutination in the patient's serum

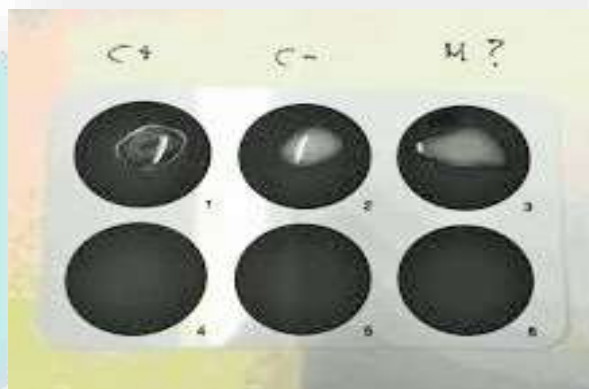
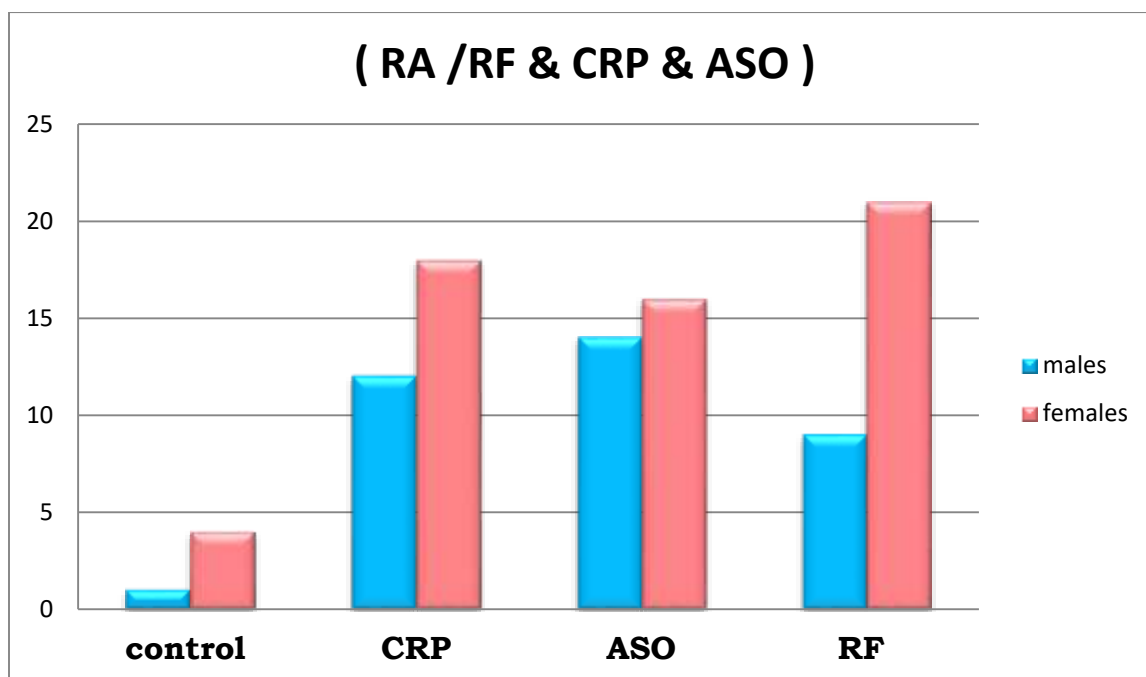


Figure-3 ANTI-STREPTOLYSIN "O" AGGULUTINATION

Anti streptolysin "o"

positive result for 1:2, 1:4, 1:8, 1:16, 1:32, 1:64 dilutions based on the highest agglutination in the patient's serum

Graph:-1 RA, CRP, ASO Tests with reference in comparison to patients with controls



Discussion:

Rheumatoid arthritis mainly causes due to hormonal imbalances. In females, rheumatoid arthritis mainly occurs due to the imbalances of progesterone and estrogen. Hence this autoimmune disease occurs more in females when compared to males i.e., 3:1 ratio. It may also occur due to changed food habits like consuming low calcium diets, consuming alcohol and smoking.

In this work total 35 samples of 30-60 years age groups blood serum were collected. Among these 35 were test samples (male 10 samples and females 25 samples). We compared these test and control samples using three parameters ASO, RF and CRP. CRP and ASO increased similarly in both males and females but RF is highly increased in females.

Many autoimmune diseases display a striking imbalance between the sexes, with females representing the majority of cases. Thus, autoimmune thyroid diseases, multiple sclerosis, and many of the rheumatological systemic autoimmune diseases such as systemic lupus erythematosus and Sjögren's syndrome affect women more often than men (Table 2). This is also true for rheumatoid arthritis (RA), where the sex ratio is typically around 3:1 (8).

Table 2: Sex ratio in various rheumatological diseases.

Disease	Female: male ratio
Sjogren syndrome	9:1
Systemic lupus erythematosus	7:1
Rheumatoid arthritis	3:1
Systemic sclerosis	3:1
Psoriatic arthritis	1:1
Ankylosing spondylitis	1:3

Women are affected by RA approximately 3 times more often than men (9) The Danish study also found a higher risk of RA among women with a history of preeclampsia, hyperemesis during pregnancy, or gestational hypertension(10).

Rheumatoid arthritis has no cure and is a progressive disease associated with morbidity and increased mortality. All individuals will experience multiple exacerbations and, without treatment, tend to have poor outcomes with disability and increased mortality (11). Rheumatoid arthritis, women are up to three times more likely to develop the condition than men. What is fascinating is that many women with rheumatoid arthritis go into remission during pregnancy. To date, no one has been able to determine the exact cause of this beneficial effect, but one theory is that changes in hormone levels may affect the level of proteins in the blood that contribute to inflammation.

Hormones also may be involved, specifically where rheumatoid arthritis (RA) is concerned. RA is an immune condition, unlike osteoarthritis, which develops due to wear and tear on the joint. Sex hormones such as estrogen and progesterone play a critical role in the inflammatory response and in the overall regulation of the immune system. Estrogen levels have been found to be higher in arthritic cartilage than in normal cartilage, suggesting that the hormone may be significant to the development of RA in women The estrogen dysregulation has been associated with disease severity and acceleration of lumbar facet joint damage in arthritis(12).

CONCLUSION

It is evident that women have greater activity of the disease than men, represented in poorer quality of life and associated co morbidities such as depression. Due to this, it is important to implement screening tests and perform multidisciplinary and integral management. When considering gender differences, one has to take into account the fact that disease activity measures themselves may be influenced by gender (13). According to epidemiologic data, RA is more prevalent in women compared to men, with a lifetime risk of RA of 3.6% in women compared to 1.7% in men (14).

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