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RESEARCH ARTICLE

A SINGLE CASE STUDY OF RHEUMATOID ARTHRITIS UNDER THE EFFECT OF SAFOOF KUNDAR (POWDER OF BOSWELLA SERRATA).

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Abstract

A study was carried out in Kashmir Tibbia College on patient with pre-diagnosed rheumatoid arthritis to assess the clinical effect of Safoofkundur (Powder of Boswellaserrata) and improvement in haemoglobin level. After complete clinical evaluation, patient was put on Unani medicine, namely Safoofkundur along with Rogni- e - surkh and for takmeed (fomentation) purpose, some botanicals were prescribed like Nakhoona (Trigonellauncata), Baboona (Matricariachamomilla) and Marzanjosh (Origanumvalgare). After periodic hospital visits, patient showed gradual increase in haemoglobin level with symptomatic relief.

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Introduction:-

1.2. Rheumatoid arthritis is an autoimmune disease. The most prominent manifestation of rheumatoid arthritis is chronic joint inflammation with symmetrical distribution. Rheumatoid arthritis occurs when body's own immune mechanism attacks the synovial membrane (lining inside joint cavity) of joints which eventually result in bone erosion and deformity. According to WHO prevalence of rheumatoid arthritis varies between 0.3% to 1% and is more common in women. Rheumatoid arthritis is also called rheumatoid disease, because it causes systemic manifestations (multisystem disease), it includes haematological, pulmonary, neurological and cardiovascular abnormalities.

Pathogenesis:-

3. The pathogenic mechanism of synovial inflammation are likely to result from a complex interplay of genetic, environmental and immunologic factors. 4. The pathologic changes are due to cytokine-mediated inflammation with CD4 + T cells which are the principle source of cytokinins. 2. In synovial lining there is extensive infiltration of lymphocytes, fibroblasts and leucocytes in joints, where a variety of prostaglandins, cytokines and proteolytic enzymes are responsible for the inflammation.

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4. Genetic Factor: It is estimated that 50% of risk of developing Rheumatoid arthritis is related to genetic factor linked to HLA – DRB1 locus.

Environmental Factor & immunological factors: Some infectious agents whose antigens may activate T or B cells, have been considered, but none has been conclusively implicated, as at least 70% of patients blood contains anti –CCP antibodies which may be produced during inflammation. Inflammatory & environmental insult such as smoking and infections may trigger autoimmune reaction.

2.5 Clinical sign and symptoms:

Joints stiffness-Worst in morning and after inactivity, Swelling, Tenderness, Warmth, decreased range of motion, Rheumatoid nodules on extensors of forearm and on finger joints, Joint deformity, Lump or redness over skin are some of the chief symptoms of this disease.

Fatigue, anaemia, malaise, dry mouth, sensation of pins and needles, occasional fever are some of the manifestations of rheumatoid arthritis.

6 Unani descriptions on rheumatoid arthritis (Waja- ul- mufasil):

As per Unani conventional and literal explanation, waja-ul-mafasil occur in different joints of body, predominantly joints of legs and arms. In Unani concept rheumatoid arthritis is caused by derangement of four humours (i.e. dam phlegm, safra and sauda).

Considering the type of khilt (houmour) involved, waja-ul- mufasil is divided in four types namely-

- 1: waja- ul-mafasilbalgami.(phlegmatic)
- 2:waja- ul- mafasildamvi.(plethoric)
- 3:waja- ul -mafasilsafravi.(bilious)
- 4:waja- ul - mafasilsaudavi.(melancholic)

Method:-

Participants information:-

In this single case study, participant is 58 years old female, a school teacher who was diagnosed with rheumatoid arthritis 25 years back. Patient experience symptoms like pain, swelling, feeling of warmth of hand and feet joints with symmetrical involvement. There is stiffness of joints during morning hours that lasts for 1 hour with decreased range of movement .In addition to above said symptoms she was pallor and her haemoglobin level was 8gms/ dl (Anaemia). Patient had history of osteomyelitis of left hand 15 years back.

Drug history of participant:-

NSAIDS, Steroids(from last 15 yrs),Analgesics, sulfasalazine(5yrs), methotrexate (1 year). Patient was on nucoxia 60mg from last 2 years along with calcium supplements.

Intervention:-

Patient was put on unani medicine and study was conducted over a period of six months. Following medicines were included in the plan of treatment.

- 1: Safoofkundur half tsf twice in a day.
- 2: Rogni- e-surkh for local application two times in a day.
- 3: Baabona, Nakhoona, Marzanjosh as takmeed(fomentation).

Patient was advised for monthly check up.

Result:-

During each clinical visit, following findings were observed –

Reduced joint swelling, decreased pain perception, morning joint stiffness gradually decreases from second month onwards.

Pre- treatment haemoglobin level was 8gms/dl and significant change was observed.

Post- treatment haemoglobin level was 9.5gms/dl. Above said improvement were observed gradually during the course of treatment.

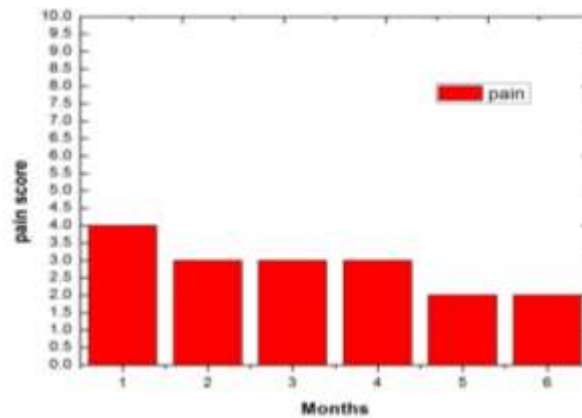


Fig 1:- shows pain score chart

- 0-1: No pain
- 1-3: Mild pain
- 3-5: Moderate pain
- 5-7: Severe pain
- 7-9: Very severe pain
- 9-10; Worst possible pain

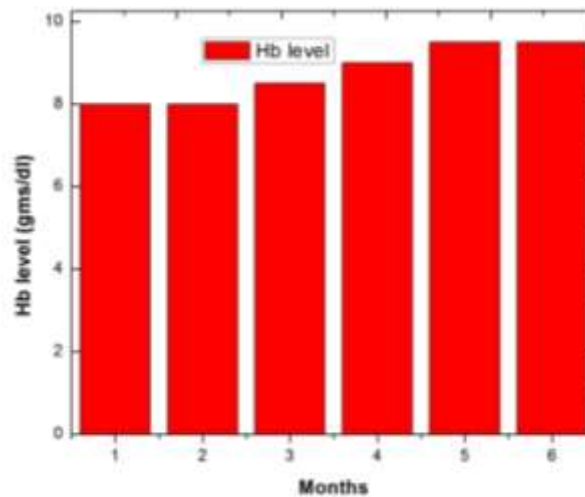


Fig.2:- showing gradual rise in haemoglobin

Discussion and Conclusion:-

Rheumatoid arthritis is an autoimmune disease of unknown aetiology & is one of the commonest inflammatory disorders, occurs during 20-45 yrs of age. Description of disease is based on four humours (doctrine of Unani medicine). A great unani scholar Hippocrates (460-377), Father of medicine said, any state that hampers four humours either quantitatively or qualitatively can cause disease.

Same is the case with rheumatoid arthritis, where humours are in excess, unani medicine like Boswelliaserrata can be effective.

In above said single case study patient was put on powder of Boswelliaserrata (half tsfbd) for consecutive six months. As Boswelliaserrata is known source of Boswellic acid which have anti-inflammatory property that work by inhibiting pro-inflammatory production of several enzymes, patient showed significant & gradual rise in haemoglobin with symptomatic improvement.

It has been experimentally verified that *Boswellia serrata* has drastic effect on birds regarding haematological parameters as shown below:

8 The overall mean packed cell volume (PCV), Haemoglobin (Hb), total erythrocytes count (RBC) are given in **Table 3**.

As can be seen from the table, mean PCV, Hb, RBC values were reduced significantly ($p < 0.05$) in T1, T2, T3 and T4. However, PCV, Hb and RBC were significantly ($p < 0.05$) increased in the birds which were offered drinking water supplemented with 3g Bs (T5) compared to control treatment and other treatments, except T4, which did not show any significant differences with T5 in PCV.

Table 3:- Haematological parameters of the broiler drinking water different levels of *Boswellia* (Bc, Bs) (Mean and SE).

Parameters	Treatments				
	T1	T2	T3	T4	T5
PCV (%)	3.110 ^c ± 29.53	2.560 ^{bc} ± 29.89	3.390 ^{ab} ± 30.18	3.220 ^a ± 30.29	2.160 ^a ± 30.87
Hb (g/dl)	5.914 ± 0.5780 ^d	6.228 ± 0.6600 ^c	6.513 ± 0.7870 ^b	6.580 ± 0.6130 ^b	6.893 ± 0.5440 ^a
RBC (x10 ³ /mm ³)	2.853 ± 0.3430 ^d	2.967 ± 0.4220 ^{cd}	3.22 ± 0.2470 ^{bc}	3.243 ± 0.3210 ^b	3.466 ± 0.1780 ^a

Mean values with (a-d) superscript in row differ significantly at ($p < 0.05$). T1 served as control while T2, T3, T4 and T5 were kept on drinking water containing T2: 2 g (Bc), T3: 3 g (Bc), T4: 2 g (Bs), T5: 3 g (Bs).

Values (Mean ± SD) of each experimental day in each row followed by different letters differ significantly ($p < 0.05$). PCV: Packed cell volume, Hb: Haemoglobin, RBC: Red Blood Cell.

From the results of haematological parameters, the indication is that red blood cells, packed cells volume and Hb have higher value ($p < 0.05$) in T5 (3 g Bs/l water) than T4 and T3 compared with the control group (T1). This indicate that with the administration of *Boswellia serrata*, animals showed an improvement in major haematological parameters. It may be concluded that the *Boswellia serrata* has a positive effect on the health of animals.

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