

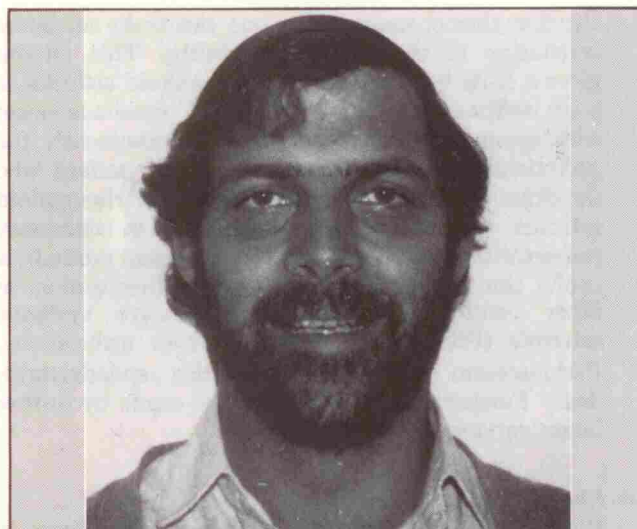
The Assessment and Management of Patients with Rheumatoid Arthritis

H Conradie

Summary

An assessment and management programme for patients with inflammatory joint disease is given which is practicable in a general practice. Reference is made to the experience with a particular patient with Rheumatoid Arthritis.

KEYWORDS: Arthritis, Rheumatoid; Physicians, Family; Diagnosis; Prognosis; Drug Therapy.



Curriculum Vitae

Dr HOFFIE Conradie behaal in 1973 die graad MBChB te Stellenbosch. In 1976 ontvang hy die Diploma in Kindergesondheid van die Kollege van Geneeskunde, SA. Na twee jaar by Tygerberg-Hospitaal is hy gedurende 1976-1979 by Rietvlei Hospitaal, Transkei en vanaf 1979-1982 by Nompumelelo Hospitaal, Peddie in die Ciskei werksaam. Sedert 1983 werk hy in die Hewu-Distrik, Ciskei. Dr Conradie en sy vrou het vyf kinders. Sy groot voorliefde is muurbal, speel en seilplank ry.

Thirty eight-year old Mrs BD gave a history of pains, swelling mainly of the wrists and ankles, with definite morning stiffness, for a one-year period, with only temporary relief given by non-steroid anti-inflammatory drugs (NSAIDs). In February 1982, she had tenderness of both wrists, as well as swelling.

In the assessment of a patient with inflammatory joint disease, the following parameters must be investigated:²

1. *Presenting symptoms*

This patient presented with symmetrical pain, swelling and tenderness with morning stiffness of the joints of the hands.

2. *Joint signs*

She had tenderness, swelling and limited movements of both wrists.

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3. General clinical features

There were no systemic signs or symptoms of involvement of the skin, nails, eyes, bowel or genitourinary tract.

4. Course

The patient gives a history of an insidious onset over a period of 1 year, involving more than one joint.

5. Joints involved

She presents with symmetrical involvement of mainly both wrists, but also pain in the MP and proximal IP joints, as well as pain in both ankles.

On this clinical assessment, one can make an initial conclusion of the course of arthritis. This patient gives a fairly typical history of rheumatoid arthritis, *ie* joint stiffness after periods of rest, insidious onset with symmetrical involvement of predominantly the peripheral joints.¹ However, not every patient who develops inflammatory polyarthritis has rheumatoid arthritis (RA)¹² Other causes of inflammatory polyarthritis must be excluded. On clinical grounds, a useful clue is the absence of synovial involvement in other conditions, eg SLE, progressive systemic sclerosis (PSS), post rheumatic fever arthropathy, Parkinsonism and the seronegative spondylarthritides.¹² Further differentiation can be made by further investigations.

6. Rheumatoid factor tests

Blood from this patient for RF was sent away in August 1983 and the results came back in September as follows:

Latex fixation test for RA -slide test = positive
-tube test titre = 1 in 5120

RF is often negative in the first year of the disease but becomes positive in 80% after one year. The remaining 20% is loosely classified as seronegative RA. These patients must be observed closely for the development of stigmata of other rheumatic disorders. It is however wrong to equate seropositivity with RA as RF is often positive in the elderly.¹² Seropositivity is usually equated with a worse long-term outlook.

7. Diagnostic radiographs

This is a useful investigation to differentiate RA from other rheumatic disorders as erosive changes are almost invariably present in RA but absent in other rheumatic disorders.¹² The typical changes on X-rays, especially of the wrists and hands in RA, are firstly juxta-articular osteopenia due to joint inflammation and immobility, and, later, loss of joint space and ill-defined erosions around the joint margin.¹ Radiographs will also distinguish RA from chronic tophaceous gout and chondrocalcinosis.¹² All rheumatoid patients should have radiographs as erosions early in the disease indicate an adverse prognosis.¹ Recent hand and wrist X-rays of this patient showed juxta-articular osteopenia, but no erosions or loss of joint space.

Given the typical clinical presentation with a strongly positive RF, this patient was assessed as suffering from rheumatoid arthritis.

The following are the eleven criteria applied by the American Rheumatoid Association for diagnosis of RA¹²:

1. morning stiffness
2. pain on motion or tenderness of at least one joint *
3. swelling of at least one joint *
4. swelling of at least one other joint *
5. symmetrical joint swelling *
6. subcutaneous nodules
7. typical radiological changes
8. positive rheumatoid factor
9. synovial fluid with poor mucin clot
10. synovial histopathology consistent with RA
11. characteristic histopathology of rheumatoid nodule

* as observed by physician

No of criteria required		Minimum duration of continuous symptoms
Classic	7-11	6 weeks first 5 criteria
Definite	5-6	6 weeks first 5 criteria
Probable	3-4	6 weeks one of first 5 criteria

Some indicators in RA affect prognosis. Many patients believe that the diagnosis of RA is synonymous with severe pain and disability, inevitably progressing to a wheel-chair or bed-bound existence.^{12,1} The following table gives an idea of prognosis in RA¹²:

- 20% - short-lived activity which results without significant residua
- 25% - remits with only mild or moderate residua
- 45% - persistent activity with exacerbations and remissions leading to progressive deformity of variable degree
- 10% - severe inflammatory disease, leading to complete disability

Nearly 50% of patients in fact have a very good prognosis and will either recover completely or be left with mild to moderate residual damage.

There are some features indicating poor prognosis in RA, *ie*^{12,1}:

- insidious onset of disease
- persistent activity for more than one year
- the development of erosions, nodules and a RF (+) in the first year or a high titre RF.

Prognosis does affect management because if there are indicators of poor prognosis, aggressive therapy should be started early.

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Treatment decisions for RA must be made at the bedside, not on the results of lab investigations.

Before management of RA can be discussed, it is important to **assess the degree of activity** of the disease as this will influence our approach to therapy. Useful parameters for assessing activity are¹²:

- severity of pain — if it wakes the patient from sleep,
- duration of morning stiffness — in excess of 30 minutes
- fatigue — develops within a few hours of rising.

This will indicate active disease. Further clues to the degree of activity include the number of swollen hot tender joints. The articular index of Ritchie is useful to evaluate joint tenderness. It is an easy and very useful semi-objective monitor of activity. Treatment decisions must be made at the bedside and not on the result of laboratory investigations.¹²

The **Ritchie's articular index** is calculated as follows:

Tenderness elicited by **firm pressure** over joint margins.

Joints scored separately:

- * shoulder
- * elbow
- * wrist
- * knee
- * ankle
- * mid-tarsal

Joints scored as single units:

- * both tempero-mandibular
- * both acromio-clavicular
- * both sterno-clavicular
- * proximal interphalangeals of each hand
- * metatarsophalangeals of each foot

Tenderness elicited by **passive movement**:

- * cervical spine (scored as single joint)
- * each hip

Grading:

- 0 = no tenderness
- 1 = complains of pain

RF is often negative in the first year of the disease but becomes positive in 80% after one year.

- 2 = complains of pain and winces
- 3 = complains of pain, winces and withdraws.

For our patient, Mrs BD, disease activity was monitored by using the Ritchie scale to assist ongoing management decisions:

Date		29/5	12/6	7/8
Elbow	R	1	1	1
	L	2	1	1
Wrist	R	2	1	0
	L	0	1	0
Knee	R	0	0	3
	L	0	0	3
Shoulder	R	0	0	0
	L	0	0	0
Mid-tarsal	R	0	0	0
	L	0	0	0
Metacarpal	R	0	0	0
	L	0	1	0
Acromio-clav		0	0	0
Temporo-mand		0	0	0
Sterno-clav		0	0	0
Ankles	R	0	0	0
	L	1	0	0
Total		6	5	8

The management of RA involves several aspects, namely:

- GENERAL PRINCIPLES AND MEASURES⁴ie:**
 - physiotherapy
 - attention to activities of daily living (ADL)
 - attention to social circumstances
 - attention to patient's attitude and reaction to disease
- DRUG THERAPY**
 - NSAID — non-steroidal anti-inflammatory drugs
 - SAARD — slow-acting anti-rheumatic drugs
 - steroids
 - local joint injections

To select a NSAID is no easy task as there are about 25 NSAIDs available in South Africa.

The NSAIDs can be classified chemically as follows⁵:

Phenylacetic acids

Diclophenac has the lowest incidence of side-effects.⁵

Cyclic acetic acids

Indomethacin is still one of the most widely-used NSAIDs. However, it causes more dyspepsia and peptic ulceration than many other drugs. The suppository has a lower incidence of GI side-effects but can cause proctitis. Indomethacin also has unpleasant CNS side-effects of hallucinations and depression. Two newer drugs, Sulindac and Tolmetine have fewer GI side-effects but the same CNS side-effects.^{5,14}

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Salicylic acids

Salicylic acid is unacceptable due to side-effects and multiple dose regimes. However, modification of the molecule has produced less irritant products which can act over 12 hours, eg choline salicylate, choline magnesium trisalicylate, magnesium salicylate and salsalate. Tinnitus and hearing loss are still the usual signs of toxicity.¹⁴

Propionic acids

are probably the best first drug with Ibuprofen being the most popular NSAID in America.⁵ In this group, Naproxen seems to have a slight advantage as it has the lowest incidence of side-effects.

Fenamic acids

are useful drugs though weaker and with a 10-15% incidence of diarrhoea.

Oxycams

Have no particular side-effects, Piroxicam is effective with a long half-life.

In choosing a NSAID there are certain principles to be followed^{5,14,9,12}

- * use one drug at a time, the exception being the addition of an Indomethacin suppository to control night-time symptoms and early morning stiffness
- * make a small selection from a range of chemical groupings

* prescribe established drugs initially

* defer the use of older aspirin preparations and Indomethacin

* prescribe an adequate dose before changing to another NSAID

* there is marked individual variation among individuals as regards efficacy; several agents should be tried until the best one for the patient is found¹²

* NSAIDs take time to develop full anti-inflammatory potential. The optimum trial period for most drugs is 2-3 weeks^{12,14}

* the first choice lies in a propionic acid series drug as they have the lowest incidence of side-effects⁵ or a newer salicylate¹⁴ or diclofenac

* all things being equal, choose the cheapest drug⁵

Corticosteroids

Oral corticosteroids often produce dramatic relief of symptoms but it is a fallacy that they can be discontinued at will. There is no conclusive evidence that they alter the course of the disease.⁶ Their use may be considered in the following situations¹²:

- * failure to control disease activity with other agents
- * uncontrolled active RA in the elderly⁶
- * to produce symptomatic relief as a temporary measure while a remittive agent is taking effect.

Active Rheumatoid Arthritis?

Typical Response to Ridaura Therapy

Patients report feeling better. Decrease in joint tenderness. Decrease in joint swelling.	Usually Within 2-3 months
Decrease in number of affected joints. Decrease in pain. Decrease in morning stiffness.	3-4 months
Increased grip-strength. Decreased rheumatoid factor. Decreased immunoglobulins. Decreased Erythrocyte Sedimentation Rate. X-ray evidence of decrease in erosion rate (12 months).	6-12 months

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Intra-articular corticosteroids are extremely useful where there is a flare-up in one or two joints.¹² By controlling the inflammatory process locally, it is usually not necessary to increase the NSAID dosage. Sepsis, local depigmentation of the skin, atrophy of subcutaneous tissue or steroid arthropathy are potential dangers. As a general rule, a joint should not be injected more than three times per year.¹²

Although **local topical ointments**, eg methyl salicylate ointments or liniments, give at least a modest improvement in symptoms of soreness and stiffness, a placebo cream works just as well.¹⁴ As long as they are not used in place of effective therapy, local topical ointments satisfy the patient and do no harm.

Slow reacting, anti-rheumatic drugs (SAARDs):

Although RA cannot be cured, many studies have shown that remission can be induced with the SAARDs which include gold (as injection or now also available orally), penicillamine, chloroquine and levamisole. The reason why these drugs are not used more generally in RA is because they have serious side-effects, even lethal at times. There are a number of misconceptions about the use of these agents,¹² eg:

- They are not last-resort therapy; they are not particularly expensive and if one considers that a significant number of patients will remit with SAARDs the need for NSAIDs is considerably reduced.
- They have no place in treating the acute rheumatoid flare. These agents are slow-acting and their effects are only seen after prolonged administration, usually after 3-6 months.
- They cannot reverse established deformities and are of no value in treating burnt-out disease with mechanically destroyed joints.
- It is essential to monitor regularly for side-effects. For gold and penicillamine this means full blood count and urinalysis monthly and for chloroquine 3-6 monthly ophthalmic assessments.

● It is inappropriate to view the use of these agents in terms of a fixed-course of, say, a few months or a year. It is usual to continue administration indefinitely in patients who respond.

The indications for SAARD therapy may be summarized as follows^{9,12}:

- little or no response to NSAID for 3-6 months
- erosions occurring early in the course of the disease or new erosions appearing on radiographs
- progressive disease with development of deformities and restriction of joint motion
- persistent active disease with seropositivity especially when accompanied by above.

Early careful scientific assessment and continued evaluation will help family practitioners to take timely management decisions. In patients with a poor prognosis especially, early aggressive management may make a big difference. Without attention to the general measures and the wider context of the patient the quality of life may suffer considerably.

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