CONTINUING MEDICAL EDUCATION

PSORIATIC ARTHROPATHY

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Psoriasis is a common disease. Prevalence of rheumatic manifestations in psoriasis has been variously reported from 0.5% to as high as more than 40%.[1] It is, therefore, obvious that psoriasis-related joint manifestations would be a common rheumatic problem. It is, therefore, surprising that not many medical men are aware of this entity and that there are only a few reports on this common clinical condition in the Indian medical literature.[2]

Since our earlier report, 22 additional cases have been seen, making a total of 42 cases. This write-up is based upon the experience of these 42 cases.

By definition, psoriatic arthritis is a *chronic inflammatory arthritis in patients with unequivocal psoriasis.*[3] It must be kept in mind that in some patients, a period of 10-15 years of chronic inflammatory arthritis may lapse before the appearance of overt psoriatic skin lesions.[3] In such cases, a careful examination of finger nails is extremely helpful. Presence of pits in the nails is a characteristic finding in psoriasis and, if there are more than 30 pits in the finger nails of a patient with chronic inflammatory arthritis, the diagnosis of psoriatic arthritis is confirmed. Similarly, in a small proportion of cases the joint disease may be active even when psoriasis is inactive. Only a detailed and direct question about skin disease or psoriasis may reveal the actual cause of arthritis. Similarly, the only features of psoriasis may be in the nails, by way of mild onycholysis in a few of them. Therefore, if a careful nail examination is not done, psoriatic arthritis can be easily missed. A patch or a few patches of psoriasis hidden under the hair on scalp, in axillae, under the breast, inside the umbilicus, somewhere under the under-garments can be easily missed unless a careful systematic search is made for them. Lastly, in some patients, even a thorough history and examination may not reveal psoriasis. But, because psoriasis has a high incidence of familial aggregation, it is mandatory in a case of chronic inflammatory arthritis, to have in-depth family history. If there is a close relative with psoriasis, the possibility of psoriatic arthritis should be kept until and unless ruled out.

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Clinical Features

The clinical pattern of psoriatic arthritis is not uniform, at least five different patterns are seen.[3,4]

The *first* and the most easily recognizable pattern is that of localized involvement of distal interphalangeal joints. In this form of arthritis, usually the distal interphalangeal joint of the same finger which has psoriatic nail changes is involved. The arthritis is slowly progressive and leads to flexion deformities in the joints. But usually the pain is not unbearable. Patients having this form of psoriatic arthritis rarely seek the advice of rheumatologists. In a group of psoriatic arthritis patients seen at the AIIMS, about 10% had this form of arthritis.

The *second* clinical variety is a mono or oligo arthritis (monoarthritis means single joint involvement, oligoarthritis means the involve-

ment of 2,3 or 4 joints). This is a mild variety. Large or small joints of extremities are involved with persistant swelling and pain. The characteristic feature of this form of psoriatic arthritis is that it involves the joints only temporarily and subsides easily but it may occur again. The progression of the disease is slow and it hardly ever leads to deformities. In our clinic, about 25% of the psoriatic arthritis patients belong to this group.

The *third* clinical variety is a symmetrical peripheral arthritis of the extremities with a very prominent involvement of the small joints of the hands, wrists, elbows, knees, ankles and feet. This form of psoriatic arthritis has a striking clinical resemblance to rheumatoid arthritis with which it is frequently confused. Besides the nail and the skin changes, the other point of distinction from rheumatoid arthritis is that in rheumatoid arthritis, distal interphalangeal joints are never involved, while in this form of psoriatic arthritis, this joint is as a rule involved. About 40% of the psoriatic arthritis patients seen by the author belonged to this category. But, this could be a biased figure because generally patients of advanced arthritis are seen by the author. Therefore, only more severe forms of the disease might have been referred to the Immunology Clinic distorting the statistics. It is possible that the first and the second categories of psoriatic arthritis are much more common in the psoriasis patients seen in the skin out-patients clinics.

The *fourth* variety of psoriatic arthritis is the one which, in addition to peripheral joints, also involves the spine. In its full form, it cannot be distinguished from primary ankylosing spondylitis. Therefore, this form of psoriatic arthritis is also often called secondary ankylosing spondylitis. In this disease, the pattern of peripheral joint involvement is exactly similar to that seen in sero-negative spondyloarthropathies[4,5] in general, and ankylosing spondylitis in particular. In short, the peripheral joints involved are mainly below the waist and asymmetrical involvement is often seen.[6] Heel pain and plantar fasciitis are common and hip involvement is frequent. In the author's experience, about 20% of the patients seen with psoriatic arthritis belong to this subcategory.

The *fifth* and the last variety of psoriatic arthritis is fortunately the rarest. It is called *arthritis mutilans* indicating the fact that this form of arthritis is the most destructive variety causing extensive mutilation of the joints of the extremities. Fortunately, it was seen in less than 5% of the cases seen by the author. It is to be noted that mutilans variety of arthritis may be seen as a result of both category 3 and 4 mentioned above i.e. the rheumatoid type as well as spondylitic type of psoriatic arthritis. The main diagnostic feature consists of extensive mutilation of the small joints of the hands with prominent distal interphalangeal joint involvement.

It is important to correctly categorize any given patient with psoriatic arthritis into the five categories mentioned above because, as described below, it has relevance to prognosis and treatment.

Diagnosis

The diagnosis of the first category of psoriatic arthritis with obvious nail changes and joint involvement localized to the distal interphalangeal joints is easy. If one is definite about the nails changes being that of psoriasis (onycholysis and pitting) then there is no differential diagnosis in this category.

The oligo-or mono-articular, mild type may be difficult to diagnose, especially if the skin and nail lesions are not obvious. Possibility of a typical early rheumatoid arthritis, psychogenic rheumatism, osteoarthritis (in persons about 30 years of age) must be considered.[7] A careful search for psoriatic lesions, family and past history of psoriasis would be helpful in making the correct diagnosis.

The polyarticular symmetrical peripheral arthritis, especially in the absence of active skin or nail lesions or in the presence of minimal psoriatic lesions, poses the most difficult diagnostic problem. It may resemble rheumatoid arthritis completely including erosive bone changes and high erythrocyte sedimentation rate[7]. However, an important point of distinction is usually present by way of obvious distal interphalangeal joint involvement in psoriasis. Also, psoriatic arthritis in pure form does not have rheumatoid factor in their serum. In rheumatoid arthritis, the rheumatoid factor is present in upto 70% of the cases. These features help in distinguishing the two arthritides.

The spondarthritic form of psoriatic arthritis is, as mentioned earlier, indistinguishable from primary ankylosing spondylitis except for the psoriatic skin lesions. Therefore, every case of ankylosing spondylitis must be very carefully questioned and examined for the presence of psoriasis.

If the disease is looked from the point of involvement of distal interphalangeal joints alone, then there are 3 diseases other than psoriasis which must be considered e. g. sarcoidosis-related arthritis, enterocolitic arthropathies and primary generalized osteoarthritis. In all these diseases there is invariably involvement of distal interphalangeal joints. But, the typical nail changes, and the skin changes and sometimes the family history are often helpful.

Arthritis mutilans is such a characteristic psoriatic arthritis that no differential diagnosis needs to be entertained.

Investigations

Psoriatic arthritis is one of the relatively easily diagnosable arthritis. Therefore, laboratory investigations do not play a major role in the diagnosis. Erythrocyte sedimentation rate helps in monitoring the activity of the disease, X-ray of the hands indicates the degree of bone destruction and hence prognosis. In spondyloarthropathic form of psoriatic arthritis, X-ray of the sacroiliac joints and lumbosacral spine are necessary to confirm the changes of ankylosing spondylitis. The test for rheumatoid factor is generally not necessary. But, in the rheumatoid type of psoriatic arthritis it may sometimes be necessary to exclude coexisting rheumatoid arthritis. These two diseases being common may sometimes occur in the same patient. In psoriasis, blood level of uric acid is also high due to rapid cell turnover in the skin. It is necessary to keep this in mind and not to misdiagnose this disease as gout based only upon uric acid levels.

The tissue typing (HLA typing) is a research investigation which is not essential for the diagnosis of this disease. It has been seen that those psoriasis patients who have secondary ankylosing spondylitis type of picture are invariably positive for HLA B27, the gene which is also seen in very high frequency in primary ankylosing spondylitis and several other related diseases called seronegative spondarthritis syndrome.[8] HLA B13 and B17 are distinctly associated with skin psoriasis but no definite HLA association has been seen with the peripheral arthritis of psoriasis.[2] More recently, however, there are indications that the histocompatibility marker for peripheral arthritis in psoriasis could be HLA BW38.

The X-rays of the involved joints (hands and feet) show varied pathologic process. Periostitis shows by way of 'sausage fingers' clinically and increased bony density in radiographs. Erosions and irregular bony proliferations lead to the so-called 'wiskering' appearance. Intra-articular bony ankylosis is also seen. It is not unusual to see all these changes in the same radiograph indicating the non-uniform involvement of the joints. This is in contrast to rheumatoid arthritis where most of the joints show nearly uniform degree of involvement.

Management

It is generally agreed that the activity of psoriatic arthritis usually goes hand-in-hand with the activity of the skin lesions, although discrepancies are often seen. Therefore, a rigorous control of psoriasis with methotrexate and dermal photo-chemotherapy would generally also help the joint manifestations.[9] It may however be noted that methotrexate is potentially hazardous; severe liver damage and bone marrow toxicity is well known to occur with this drug. Therefore, it is to be used by persons experienced in the use of this drug. Addition of non-steroidal anti-inflammatory drugs, especially indomethacin is very helpful in controlling the joint symptoms. The spondylo-arthropathic form of psoriatic arthritis may require even phenylbutazone for the relief of symptoms. But, it is a very toxic drug and generally not recommended. The subcategory of psoriatic arthritis resembling rheumatoid arthritis responds to gold sodium thiomalate or gold sodium thioglucose as does the rheumatoid arthritis. Local corticosteroid injections used judiciously can be extremely helpful. Extensive physiotherapy and splinting protects the joints from getting deformed.

The mutilans variety is extremely resistant to any form of therapy. Fortunately, this is the rarest variety of psoriatic arthritis. Chloroquine is contraindicated in any form of psoriatic arthropathy.

Prognosis

Category one and two mentioned above have excellent prognosis. They require minimum of drug therapy and respond well to non-steroidal anti-inflammatory drugs and general control of psoriatic skin lesions. The rheumatoid type of psoriatic arthritis is relatively more serious. Gold therapy is, however, beneficial in upto 70% of such cases. The prognosis in spondyloarthropathic and mutilans subcategories is poor as both of these are difficult to control. However, physiotherapy, methotrexate, joint replacement and other newer measures may improve prognosis in this group also. There are evidences that in desperate cases cytotoxic drugs other than methotrexate may also be beneficial. But the hazards of their use must be carefully weighed against the expected benefit.

References

1. Wright V : Psoriatic Arthritis in 'Text book of Rheumatology, Eds. Kelly W, Harris F, Ruddy S & Sledge CB, WB Saunders Company, 1981; p 1047-1062.
2. Malaviya AN, Dasgupta B, Tiwari SC et al : Psoriatic arthritis ; a clinical and immunological study in 20 cases from India, J Assoc Phy Ind, (in Press).
3. Bala K, Malaviya AN, Bhuyan UN et al : Profile of autoantibodies in autoimmune diseases in India, Ind Jour Med Res, 1977; 66 : 957-964.
4. Prakash S, Mehra NK, Bhargava S et al : HLA B27 related 'unclassifiable' seronegative spondyloarthropathies, Ann Rheum Dis, 1984; 42 : 640-643.
5. Malaviya AN, Mehra NK, Adhar GC et al : HLA B27 in patients with seronegative spondarthritis in India, J Rheum, 1979; 6 : 423:415.
6. Malaviya AN, Mehra NK, Adhar GC et al : The clinical spectrum of HLA B27 related rheumatic diseases in India, J Assoc Phy Ind, 1979; 27 : 487-492.
7. Malaviya AN : Systemic arthritides, in "Changing Concepts in Medical Practice", Eds Gupta MC and Haster PC : Book Lovers Publishing House, Delhi, 1984; p 171-193.
8. Mehra NK and Malaviya AN; The HLA system and its application in clinical medicine, J Assoc Phy Ind, 1983; 31 : 167-172.
9. Hollingsworth JW : Psoriatic arthritis, in "Internal Medicine", Ed Stein JH, Little Brown and Co-Publishers, Boston, 1983; p 1072-1075.