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REVIEW ARTICLE

EFFICACY OF HOMOEOPATHIC MEDICINES IN JUVENILE IDIOPATHIC ARTHRITIS

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Abstract

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JIA is the commonest rheumatological disorder of childhood and one of the most common causes of disability, chronic morbidity and school absenteeism. Three major types of onset are described according to the presentation during the first 6 months of disease, viz. systemic (with fever and rash), oligoarthritis (4 or fewer joints involved) and polyarthritis (more than 4 joints involved).

INTRODUCTION

The term juvenile idiopathicarthritis (JIA) was proposed by the Paediatrics Standing Committee of theInternational League of Associations for Rheumatology. It refers to a group of conditions characterized by chronic inflammatory changes of the joints. It is defined as arthritis of one or more joints with onset below the age of 16 yr and persisting for at least 6 weeks. It has the following subtypes:

i. Systemic
ii. Oligoarthritis: (a) persistent (b) extended
iii. Polyarthritis: rheumatoid factor negative

iv. Polyarthritis: rheumatoid factor positive
v. Psoriatic arthritis

JIA is the commonest rheumatological disorder of childhood and one of the most common causes of disability, chronic morbidity and school absenteeism. While the Western studies suggest that JIA is more common in girls, in India the female predominance is not marked.

Etiology

The immune system is very closely related to the evolution of the disease. There is also appears to be a major histocompatibility complex (MHC) associated genetic predisposition. For instance HLA DR5 and DR8 are linked to early onset oligoarthritis (seen more in girls), B27 to late onset oligoarthritis (seen more in boys) and DR4, Dw4 and DR1 to rheumatoid factor positive polyarthritis. JIA does not appear to be a homogeneous disease entity and the different subtypes may, in fact, represent separate clinical conditions.

The etiopathogenesis of JIA are not known clearly. Several environmental triggers like infection with rubella virus, M. tuberculosis, M. pneumonia, physical trauma and psychological stress are linked to the onset of JIA, but their exact role is not clear. Lymphocyte analysis shows increased number ofactivated T cells in children with polyarthritis and oligoarthritis, while children with systemic disease have low numbers of natural killer cells. A number of autoantibodies like antinuclear antibody may be seen in the serum of children with JIA. The classical IgM rheumatoid factor is almost never detectable in preschool children with JIA. Older girls with polyarticular small joint disease of the hands (especially involving the metacarpophalangeal and proximal interphalangeal joints) may, be RF positive.

Clinical Subtypes

Three major types of onset are described according to the presentation during the first 6 months of disease, viz. systemic (with fever and rash), oligoarthritis (4 or fewer joints involved) and polyarthritis (more than 4 joints involved).

Systemic onset JIA

About 5-15% of patients with JIA may have acute onset disease with prominent systemic features. These systemic features can sometimes precede joint manifestations by weeks or months. This condition should, therefore,be considered in the differential diagnosis of any child with prolonged fever. The illness can occur at any age and is more common in boys. The illness usually begins as an intermittent fever with a characteristic twice daily peak. Fever is prominent in the

evening hours. It is accompanied by a characteristic maculopapular rash (with central clearing), which is prominent on the trunk. This rash may be difficult to recognize in individuals with dark skins. Affected children show marked irritability, which decreases with subsidence of fever. Serosal involvement (in the form of pericarditis or pleuritis) may be prominent. Hepatosplenomegaly and lymphadenopathy are common at presentation and can lead to diagnostic confusion. There is a moderate neutrophilic leukocytosis and an elevated erythrocyte sedimentation rate along with thrombocytosis. The rheumatoid factor is negative.

Oligoarthritis

Oligoarthritis is the most frequent type of JIA accounting for approximately 60-70% of patients. Four or fewer joints (usually large) are affected during the first 6 months of the disease. The involvement is often asymmetrical. Swelling of joint is more than joint pain. Two subtypes are described: persistent (if number of affected joints are 4 or less) and extended (if number of affected joints exceeds 4 during the course of disease).

Oligoarthritis is more common in young girls, typically 3-5 yr of age. The knees and ankles are commonly affected. Small joints of the hands and feet are not involved.

Polyarthritis

Polyarthritis occurs in 25-30% of patients and is more common in girls. Joint pain is more than joint swelling. Fever and the degree of malaise can be significant. Two subtypes are known:

1. Rheumatoid factor negative: This may occur at any age in childhood. The knees, wrists and hips are the joints usually affected. Small joints of hands and feet are less commonly involved and rheumatoid nodules are not seen. Joint disease in this subtype of JIA is far less severe than that seen in patients who are rheumatoid factor positive.

2. Rheumatoid factor positive.

The age of onset is late childhood or early adolescence. The arthritis is symmetrical, additive, severe and deforming and typically involves the small joints of the hand, especially the metacarpophalangeal joints and the proximal interphalangeal joints. Cervical spine and temporomandibularjoints can also be affected. This subtype is the only category of JIA which is somewhat similar phenotypically to adult onset rheumatoid arthritis. Rheumatoid nodules are present in some patients and they usually manifest severe disease.

Psoriatic arthritis

In this type of arthritis there is association between arthritis and psoriasis. Arthritis may precede, accompany or

follow the occurrence of psoriasis in children. Simultaneous occurrence of small and large joint arthritis or involvement of the distal interphalangeal joint are important clinical clues to the condition.

LABORATORY INVESTIGATIONS

- The clinician should recognize the differing pattern of joint involvement in various types of JIA. It is most important diagnostic clue.
- Synovial fluid aspiration for microscopy and culture is indicated in children with monoarthritis, to exclude septic arthritis.
- Complete blood count and ESR.
- C-reactive protein measurement is a surrogate marker of disease activity and are helpful on followup.
- Plain radiographs of affected joints are obtained at the time of initial diagnosis and may be repeated for assessment of erosive disease.
- It should be noted that screening for rheumatoid factor is not a useful test for diagnosis of arthritis in young children, but it is an importantprognostic factor in situations where it is positive.

TREATMENT

Management of JIA is multidisciplinary. Physiotherapy and occupational therapy should be tailored to the specific needs of an individual child, in order to prevent deformities and facilitate 'mainstreaming' and rehabilitation. Physical therapy helps in relieving pain, maintenance of posture and joint mobility, improves muscle strength and prevents fixed flexion deformities. Patient should be assessed by an ophthalmologist so that uveitis can be detected early and treated appropriately. Children with oligoarthritis need regular ophthalmological followup as uveitis can develop later.

COMPLICATIONS

- Anaemia due to chronic ongoing inflammation is almost always present in children with persistent active arthritis.Blood loss induced by NSAIDs can also be a contributory factor for the anaemia.
- Chronic anterior uveitis may be clinically silent and potentially blinding.Girls below 6 yr of age with oligoarthritis and who have anti-nuclear antibodies are at the highest risk of developing this complication.
- Children with systemic onset disease are especially prone to develop macrophage activation syndrome, a potentially life-threatening complication manifesting as sudden onset icterus, bleeding tendency, leukopenia, thrombocytopenia, elevated triglycerides and raised ferritin levels.

- Growth disturbances, limb length discrepancies and joint contractures can be seen in children with long-standing disease.

Some commonly used homoeopathic medicines

1. **Abrotanum**:—Chronic arthritis. Gouty deposits about finger-joints, < during cold, stormy weather, joint painful, sore and hot; metastasis to heart; piercing pain in heart ; high fever ; emaciation, though appetite is good.Child is ill nature,irritable,cross and despondent;violent,inhuman.Would like to do something cruel.
2. **Actaea spicata**—Rheumatoid arthritis; swelling of joints after slight fatigue ; pain as from paralytic weakness of hands; great stiffness of joints after rest; small joints swell after walking; legs weak after change of temperature; fingers numb, cold, discoloured; exertion causes cold sweat.
3. **Antimonium crud**.—Joints problems associated with gastric symptoms; tongue white, bowels costive, vomiting and retching.Child is fretful,peevish,cannot bear to be touched or looked at;sulky,does not wish to speak or to be spoken, angry at every little attention.A thick milky white coating of tongue.Aversion to bathing.
4. **Apis mel**.—Acute arthritis, mostly articular, where the affected parts feels very stiff and exceedingly sore to any pressure, often with sensation of numbness; sensation as if the swollen joints were stretched tightly, of a pale-red color; some fluctuation about joint; burning, stinging pains, < from any motion even that of hands increases pain of lower limbs; stiffness in back and lame feeling in scapulae; oedema of affected parts; great tenderness to touch, > by cold water.
5. **Arnica mon**.:—Inflamed joint shining, red and hard, pains unbearable during night ; sensation as if the foot were compressed by a hard body.Local rheumatism in winter from exposure to dampness and cold, and by the strain of the muscles from overexertion; affected parts feel sore and bruised, < from any motion and fear of being touched, as it may hurt ; sharp shooting pains running down from elbow to forearm or shooting through legs and feet, which often swell and feel sore and bruised; sensation as if resting on something very hard. Heat of upper part of body,coldness of lower part.
6. **Belladonna**:— Red, shining swelling of joints of erysipelatous appearance; stitching, burning and throbbing pains, with high fever, hot, dry skin, thirst, congestion to head, with throbbing

headache and pulsations of carotids; pains come and go quickly or come suddenly, stay a longer or shorter time, and then suddenly disappear; < lying than sitting; stiff neck of rheumatic or catarrhal origin; rheumatic fever with pains in joints flying about from place to place, with profuse sour sweat which gives no relief , jerking in sleep ; stitching burning pains, < afternoon and early part of night, by talking or slightest motion.

7. **Causticum**—Rheumatoid arthritis; chronic articular rheumatism, when joints are stiff and tendons shortened, drawing out of shape, < from cold and > by warmth; restlessness at night , averse to being uncovered ; great weakness and lameness of lower limbs and trembling of hands ; rheumatic tearing in shoulder ; paralysis of deltoid, cannot raise hand to head; constant tearing and piercing pains, compelling constant motion, which does not relieve, always coming on in the evening and diminishing in the morning, < from dry cold air or snowy weather.
8. **Chamomilla:**-Excessive sensitiveness to pain ; with great mental irritability and crossness ; pains drive patient out of bed and compel him to walk about, he is almost beside himself with anguish; drawing pains in muscles of upper and lower limbs ; joints sore as if bruised and worn out, no power in hands or feet ; wants to move the parts continually , which are numb and partially paretic ; pains in periosteum with paralytic weakness ; hot perspiration, especially about head; child wants to be carried, one cheek red and hot, the other pale and cold ; < at night ; great thirst.
9. **Colocynthis:**—Stiffness of the joints following the acute disease; boring pains in the stiff and unwieldy joints; tearing, drawing pains in limbs; violent drawing pain in right thumb, as in the tendons, beginning in ball and passing out at the tip; crampy pain in hip, as if it were screwed in a vise, lies upon affected side with knee drawn up; great tendency of all the muscles to become painfully cramped; > by hard, firm pressure.
10. **Ledum**—Low, asthenic cases;lancinating, tearing pains; < by motion than by touch and at midnight, when joints feel so hot that he throws off all covering; oedematous swelling of joint, which may feel cold to the touch; affects chiefly left shoulder and right hip-joint ; habitual gout in the articulations of hands and feet; ball of great toe swollen and painful; soles very sensitive; tendons stiff; gouty nodosities in joints; fine tearing pains

in toes; face bloated; pimples on forehead.

11. **Lycopodium**--Tophi; nocturnal pains, > by heat; muscular contractions; gravel; haematuria; drawing, tearing in the limbs at night and on alternate days; < at rest; muscles and joints rigid, painful, with numbness; finger-joints inflamed; also with arthritic nodes, swelling of the dorsum of the feet ;> in warmth ; sour eructations; frequent belching without relief; fullness in stomach and bowel;tension in liver; abdominal and renal colic ; constipation; lithic acid deposit in urine, must rise often at night to pass urine.
12. **Natrum mur**.- Big toe red, with tearing and stinging on walking or standing; tarsal joints feel bruised; cracking of joints, which feel stiff on moving them; lame, bruised sensation in smallof back, as if a portion of the spine were taken out;< at the seaside and in cold weather; > in warm weather; constant sensation of chilliness. Chronic articular rheumatism, based on some dyscrasia (malaria) ; symptoms < forenoon; copious sweat with great relief ; sleeplessness, peevishness > towards evening; paralytic like weakness of legs; tingling in limbs, especially on tips of fingers and toes, emaciation even while living well.
13. **Phytolacca-**Rheumatic affections of the shoulders and arms, especially in syphilitic patients ; the pains fly from one part like electric shocks to another part, worse at night and in damp weather ; pains in middle of long bones, or attachment of muscles ; pains down from hip to knee; heavy dragging; all worse on outer part of thighs; nightly pains in periosteum of tibia ; severe pains through ankles and feet and on dorsa of feet; soles burn; feet puffed; enlargement of the glands of the neck and axilla.
14. **Pulsatilla-** Gastric symptoms prominent; rheumatism caused by getting wet, especially the feet, from protracted wet weather; drawing, tearing pains, often shifting from one part to another, or attacking only one side, with redness and swelling and extreme sensitiveness to jars, touch or pressure; pain in small of back as if sprained; arm is painful, even while at rest, as if humerus were beaten in middle; hip-joint painful, as if dislocated; bruised, beaten feeling in lower extremities; feels he must move about, though it does not relieve the pain, < at night, in bed, in the evening, when rising after sitting long, when lying on painless side; > from slow

motion, in open air, while lying on painful side ; pale face and chilliness increasing with the pains.

15. **Rhostox**.—Attacks the fibrous tissues, the sheaths of muscles, rheumatism after exposure to wet, especially when one is overheated and perspiring, < during damp weather and from dwelling in damp places; rheumatic diathesis, with numbness and tingling in limbs; cold fresh air intolerable,it seems to make the skin painful and attack periosteum wherever there are prominent projections of bones,as in cheek bones; < during rest in bed, mornings when beginning to move, > by warm applications and continue motion ; lumbago, whether pains are better from motion or not, having a special affinity for the deep muscles of the back ; restlessness.
16. **Sarsaparilla.**—Rheumatic bone pains after mercury or checked gonorrhoea ; < at night, in damp weather or after taking cold in water ; thinking about his pains causes them to return or grow worse; stitches in hack from least motion ; stitches in upper and lower limbs, < on motion ; hands and feet exceedingly weary.
17. **Sepia.**— Wandering rheumatism, > in warmth of bed and by motion; stiffness in back, > by walking; coldness between shoulders as from a cold hand; feels as if she could feel every muscles and fibre of her right side from shoulder to feet ; arthritic pains in stiff joints ; ankles weak and turning easily when walking.
18. **Silicea.**—Chronic hereditary rheumatism and gouty nodosities, causing such tenderness of soles that patient cannot walk;shoulder pain < at night and uncovering; rheumatism of lower cervical vertebrae;violent tearing between shoulder blades;pressure and tension in small of back. Scrofulous rachitic children with large head;open fontanelles and sutures;much sweating about head;distended abdomen;weak ankles;slow in learning to walk.
19. **Thuja-** Rheumatism, with numb feeling, < in warmth, from moving, after midnight, > from cold and after sweating; sweating of parts not covered, those which are covered are dry ; sensation as if the whole body were very thin and delicate and could not resist the least attack ; tearing pains in neck, preventing turning; boring and tearing pains in loins, ex-ending to hip; rheumatism from gonorrhoealand sycotic poison ; arthritis deformans.Ailments from bad effect of vaccination.

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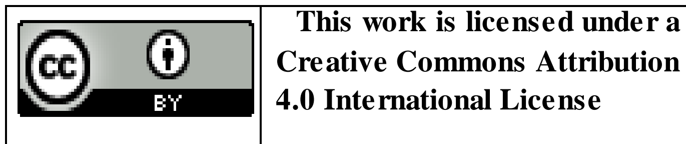
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