Editorial

Low Back Pain

— A Basic Approach To Clinch The Cause

Dr Golokbihari Maji
MS (Ortho)
Hony Editor, Journal of IMA (JIMA)

Low back pain is a remarkably common disability. It is observed that more than 80% population is affected by low back pain at some time during their working lives. However despite its frequency, back pain is not a dramatic disease that arouses the scientific curiosity and interest of medical practioners. Physicians are understandably disenchanted by the frequently obscure etiology of this irksome syndrome and commonly disappointing to treatment. It is a common, painful condition affecting the lower portion of the spine. With increased expectancy of life, fast moving day to day activities, mechanisation of normal activities, psychological tension to achieve the goal low back pain patients are increasing rapidly thoughout the world.

In India more than 10 milion fresh cases of definitive origin are being encountered by physician every year. Three important factors can be mentioned here : usually self diagonosed, usually self treatable and lab-tests and imaging are not frequently required.

The low back pain, like abdominal pain, is a symptom, not a discase. The pathological basis for the symptoms may be something within the spine but mostly a lesion outside the spine. Hundreds of cauges are there; they may be classified broadly as spondylogenic, neurogenic, Viscerogenic, vascular and psychogenic.

Spondylogenic Back Pain :

This defined as pain derived from the spinal column and its associated structure. The pain is aggravated by general and specific activities and is relieved to some extent by rest. The pain may be derived from lesions involving the bony components of spinal column, changes in the sacroiliac joints, or most commonly changes occurring in the soft tissues like disc, ligaments and muscles.

Neurogenic Pain :

Tension, irritation or compression of a lumber nerve root or roots will usually couse referral pain symptoms down one or both legs. There are other couses too to be remembered : —

(i) Thalamic tumor may present or develop a causalgic type of leg pain.
(ii) Arachanoid irritation of any type.
(iii) Tumors of spinal dura.
(iv) Neurofibroma, neurilemmoma, ependymoma, and other cyst and tumor involving the nerve roots.

The sciatic pain associated with parasthesia involving the lateral border of the foot and the lateral two toes usually got aggravated by provocative activity and relieved to some extent by recumbency. Examination revealed the impirement of conduction of first sacal root as evidenced by weakness of the planter flexors or the ankle, markedly diminished ankle jerk and diminution of appreciation of pin prick sensation over the lateral border of the foot.

Vascular Back Pain :

Abdominal Aortic Aneurysm or peripheral vrscular disease may give rise to back pain or symptoms resembling sciatica. Insufficiency of superior gluteal artery may give rise to buttock pain which aggravates on walking but rlieved on standing still. Intermittant claudication – intermittant pain in the calf associated with PVD may on occasion mimic sciatic pain produced by roor irritation but the history of aggravation by walking and relief by standing still will make the clinician look for signs of peripheral vacular insufficiency. Symptoms associated with PVD may be mimiced by spinal stenosis. When the pain of PVD increased on walking and got releived on stand still, the pain due to spinal stenosis is not relieved on rest / stand still.

Viscerogens Pain :

Viscerogemic pain may be derived from disorders of kidneys, or the pelvic viscera, lesions of the lesser sac and retroperitoneal tumors. Backache in rarely the sole symptoms of visceral disease. The pain is not aggravated by activity and is not relieved by rest.

Psychogenic Back Pain :

Pure psychogenic pain is rarely seen is clinical practice. Clouding and confusion of the clinical picture by emotional over tunes are more commonly seen. Physicians must learn to recognize the presence of an emotional breakdown, he or she must never forget that emotional illnesses do not protect a patient against organic disease. In such patients, although the task may be difficult, the physicion must be prepared to accept the possibility of an underlying signiticant pathologic process and in vestigate its probability thoroughly.

Typical Back Pain Pattersn :

Structural spinal disorders — Pain due to disc degereration frequently result in pain that is aggravated by activities or staying in one position for long time. Pain relief may be partial with rest or may even be associated with changing position. When the pain

is discogenic in origin it worsen with change of posture like sitting, bending, lifting and straining activities. Facet pain is usually worse with extension type activities and associated with abnormality of spinal movement rythm. The disc degeneration may be associated with radicular pain and symptoms. True radicular pain needs to be distinguished from non redicular pain. The peak incidence of back pain associated with disc degeneration occurs between 35 and 55 years of age.

Inflamatory spinal pain — Inflamatory spinal pain is usually worse in the morning and improves with activity and worsen with any degree of inactivity throught the day and typically associated spinal stifness. The pain may radiate to the knees and involve the other joints including hips and shoulders, even may be associated with peripheral joints.

Common pathologic and clinical features include spinal joint inflamation and fusion, sacroiliac joint inflamation or fusion, peripheral joint arthritis and oligoarthritis, enthesitis, or other extra anticular manifestations. Spondyloar-thropathies (SPA) frequently have strong genetic association. There are common associated disease, including Ankylosing Spondylitis, Psoriatic arthritis, Reactive crthritis, and Enteropathic SPA : arthritis associated with inflamatory bowel diseases.

Distictive X-ray changes include square vertebral bodies, syndesmophytes, bamboo spine, sacroiliac pseudo widening erosions, sclerosis of the sacroiliac joint, periostitis and spurs at enthuses.

Tumors — Patients with malignant tumors frequently will have night and rest pain or pain associated with inactivity if there is vertrebral destrution and instability. They may also have associated mechanical pain that is worse with activity. Patient will give the history of weight loss, loss of appetite and other constitutional pymptoms.

Infections — The pattern of pain in patients with infection is a pain that is worse at night and at rest and the pain may be associated with night sweats as well as chills. Onset of pain may be preceeded by an infection elsewhere in the body, in particular bladder infection or respiratory tract infection. Patients frequently are immunocompromised, for example diabetes or human immuno defficiency virus (HIV). In general, primary infection of spine are seen more commonly in juveniles and in the elderly.

Trauma — Etiology of the pain in these situation is self evident. Minor injuries with soft tissue involvement following motor vehicle accidents may exibit a delayed onset of pain. In majority of fairly major injuries, however the onset of pain immediately fallows the injury. Here after pain may continue to diminish. In some instances, patient may have fairly minor injuries that result in onset of back pain for the first time, and this may be trigger for intermittent back pain in future. The continuation of chronic pain is most likely interelated to some underlying condition such as dise degenerations.

Osteoporotic Compression Fractures — In elderly individuals with osteoporis multiple small repeated trauma may occur resulting in fairly compression fracture of the vertebrae. This hype at pain is immediate in onset and may be severe, and aggravated by movement, activity and weight bearing.

Pattern of Leg Pain — Leg pain may be due to nerve root irritation / compression or non redicular in elderly. Redicular pain may be due to central spinal menosis. subarticular stenosis and foraminal stenosis. Non redicular pain may be vascular or result from arthritis. It may be due to local soft tissue lesion like tumor, infection or injury.

Alerts to Onset of Pain in Different Age Groups — The acute onset of severe and disabiling pain if associated with constitutional symptoms, should always alert the clinician about a serious underlying pathology. The peak incidence of spine pain associated with disc degeneration occurs between the ages of 35 and 55 years, but the patient may have pain associated with disc degeneration throughout the spectrum of life. There are conditions, however, that tend to occur more frequently within age groups and the clinician should be aware of these and evalute patients for those specific conditions.

Infancy and adolescence — Onset of persistant pain in this group should alert one to the possibility of an infection and tumor. Vertebral osteomyelitis is prone to occur in infancy and there is predilection for osteomyelitis in infants to occur in the spine as opposed to nonspinal locations. Malignant bone tumors are rare in this age group and osteoid osteoma would be a more common, benign tumor. Other benign conditions that may present with back pain, particularly in adolescence, include spondylolysis and scheuermann direase.

Young and middle aged adults — During this time period, patients may be undergoing premature disc degeneration, and this would fairly be a common couse. However, this is also the age, when more commonly, the onset of pain due to spondyloarthropathies is seen. Young and active adults are nore prone to trauma and injury.

Younger and older adults — This is the phase of degeneration and by far the most common cause of back pain. Ninely percent of patient presenting with an onset of backpain will have disc degeneration. Evaluating the pattern of pain will be useful in excluding other serious causes of back pain.

Older age group — If the patient have had persistant pain for many years they may continue to experience back pain in their late 60s and beyond. However, acute onset of back pain in patients of this age groups without a history of any significant prior pain should alert one to the possibility of tumors. The most common tumor would be a metastasis and this does require a careful work up. Infections also occur in the older individuals. Patients with osteoporosis may undergo compression fracture.