SPINAL INFLAMMATORY DISEASE

DEFINITION OF SPINAL INFLAMMATORY DISEASE: Inflammation that simultaneously occurs in multiple spinal tissues which may include vertebrae, intervertebral discs, ligamentum flavum, cauda equina nerves, filum terminale, arachnoid membrane, and the dural layer of the spinal canal cover.

CAUSE: There are two major causes for inflammation to simultaneously develop in multiple spinal tissues: (1) autoimmune disease, (2) Epstein-Barr virus (EBV) reactivation and autoimmunity.

DEVELOPMENT OF ADHESIVE ARACHNOIDITIS: Adhesive arachnoiditis only develops after inflammation has developed in both cauda equina nerves and the arachnoid membrane which is the inner lining of the spinal canal cover. AA occurs when both these tissues are inflamed and produce sticky adhesions that glue the two together.

CONSTANT INTRACTABLE PAIN (IP): IP may occur at any stage of spinal inflammatory disease.

LABELED CONDITIONS: Spinal inflammatory disease has not been appreciated until recently primarily because autoimmunity and EBV reactivation are relatively new discoveries.

	NAME OF INFLAMED TISSUE	CONSEQUENCE AND/OR LABELED CONDITION
1	Vertebrae	Arthritis
2	Intervertebral discs	Degenerative disc disease
3	Arachnoid membrane	Tarlov cyst
4	Filum Terminale	Tethered cord
5	Cauda equina nerves/arachnoid membrane	Adhesive arachnoiditis

DIAGNOSIS: Patients with severe chronic back pain are highly encouraged to determine if they have multiple spine tissues that are simultaneously inflamed. MRI reports may not give a specific diagnosis but will point out evidence of inflammation such as hypertrophic ligamentum flavum, protruding disc, and/or degeneration of vertebrae. Blood tests for inflammatory markers include erythrocyte sedimentation rate (ESR), C-reactive protein (CRP), and interleukins (especially 6 and 10).

MEDICAL TREATMENT: Suppression of inflammation and autoimmunity plus tissue regeneration are the basic treatments. Pain relief is symptomatic.

References:

1. Takahashi H, et al. Inflammatory cytokines in the herniated disc of the lumbar spine. Spine 1996;21:218-224.
2. Bilello, J, et al. Patterns of chronic inflammation in extensively treated patients with arachnoiditis and chronic intractable pain. Postgrad Med 2016;92:1-5.

This information is provided as a public service "Arachnoiditis Hope" a project of the Tennant Foundation, 336 ½ S. Glendora Ave., West Covina, CA 91790.
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