

PD-30. RADIOLOGICAL DIAGNOSIS OF ARACHNOIDITIS IN RELATION TO POSSIBLE CAUSE.

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At present most cases of arachnoiditis (ARC) appear to be caused mostly by diagnostic, operative or interventional procedures on the spine. An attempt was made to identify the possible cause-effect relationship between the apparent injurious event(s) and the type of lesions noted in radiologist images.

The radiological findings in 322 patients diagnosed with ARC by either MRI or by myelogram followed by CAT scan were tabulated with information obtained directly from the patients and from their medical records.

Certain correlations were noted that suggest that ARC noted after surgical intervention involved clumping of nerve roots plus dural sac deformities, intradural and/or extradural scarring, whereas those apparently caused by chemical irritants usually had only clumped and enhanced nerve roots.

ARC frequently occurs in patients having spinal conditions undergoing diagnosis or treatment. As such, arachnoiditis is an epiphenomenon, with manifestations commonly superimposing to the original symptoms, thus confusing some clinicians. Enhancement and clumping of nerve roots appeared from all causes of arachnoiditis, however, deformed thecal sac, intrathecal calcifications, restrictive ARC, epidural fibrosis and scarring, and pseudomeningocele were mostly seen in patients that had undergone spinal operations. Syringomyelia occurred mostly in patients having regional anesthesia or pain relief procedures.

1. Ross JS, Masaryk TJ, Modic MT, et al: MR imaging of lumbar arachnoiditis. AJR 1987:149:1025-1032.

2. Delamarter RB, Ross, JS, Masaryk TJ, et al: Diagnosis of lumbar arachnoiditis by magnetic resonance imaging. Spine 1990: 15: 304-310.

3. Aldrete JA, Brown TL: Laboratory and Radiological Diagnosis of Arachnoiditis. In: Aldrete JA (ed.) Arachnoiditis: The Silent Epidemic. Denver, FutureMed, 2000:221-252.

Table

*Phenol, 10% Saline, Na Bisulfite

** Epidural steroids, adhesiolysis, facet joint injections

One patient may have one or more lesions

Injurious Event	Enhanced Nerve Root	Clumped Nerve Root	Intrathecal Calcification	Deformed Thecal Sac	Nerve Root Adhered to Sac	Epidural Fibrosis	Syringomyelia	Pseudomeningocele
Myelogram with Pantopaque	12	13						
Myelogram with Water-Soluble Dyes	9	6						
Laminectomy, 1 Intervertebral Space	17	9	2	4	6	5		3
Laminectomy, >1 Intervertebral Space	12	9	1	17	19	14		4
Myelogram followed by Laminectomy	22	41		16	19	24		5
Bone Fusion	11	7	1	21	18	31		6
Fusion with hardware	17	28	2		4			9
Traumatic Spinal Anesthesia	12	10						
5% Lidocaine Spinal Anesthesia	3	2						
Epidural Anesthesia with Paresthesia	19	16					4	
Epidural blood patch	8	15						
Epidural Neurolytics ^o	5	9			14			
Pain Management Procedures**	4	13			4		3	