Occult Spinal Dysraphism

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Preface

Our knowledge of the occult spinal dysraphisms has evolved significantly since the first observations of the various manifestations of this term. Spinal dysraphisms, in general, have been observed and studied by many greats in the history of medicine including Morgagni and von Recklinghausen. The term is attributed to Lichtenstein (1940) who in describing dorsal midline fusion defects found that this constellation of pathological findings was "adequately designated by the term dysraphism or *status dysraphicus*." Interestingly, the occult forms of spinal dysraphism have usually had less attention paid to them compared to their cousins, the open varieties. Surgeons (e.g., James Gardner, C.C. Michael James, and L.P. Lassman), obviously, have also had a keen interest in these embryological derailments and have added to our understanding of their morphology and best surgical treatments, especially in terms of the tethered cord syndrome, which is now, but not historically, an accepted pathological concept. We now know that clinicians should suspect spinal cord tethering in all occult spinal dysraphic states and intervene prior to loss or further loss of neurological function. Parenthetically, James and Lassman, in the early 1970s, rightfully summarized that the spinal dysraphisms:

> became a subject of urgency because its spinal surgical management had a very bad reputation, and because the patients, being children, were developing more severe disabilities without the apparent possibility of treatment of the primary condition.

We now realize that not only children but also undiagnosed adults can present with symptoms of the tethered spinal cord due to an underlying occult spinal dysraphism. Some forms of the occult spinal dysraphisms, such as the isolated fatty infiltrated filum terminale, with minimal caudal displacement or a normally positioned conus medullaris have undergone surgery with questionable to inappropriate indications. Prospective and randomized studies with strong methodologies are necessary in the future to offer guidelines for such cases in order to minimize unindicated surgeries.

In this book, we have endeavored not only to shed light on each of the *forme frustes* of occult spinal dysraphism but also to update the reader to newer embryological insights, modern imaging modalities, and best treatment paradigms. To this end, our hopes are that the clinician, whether they be a specialist or generalist, will

finish reading this text and come away a little wiser and that this knowledge will benefit patient care.

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