

THERAPEUTIC STRATEGIES IN THE ALIGNMENT OF LOWER EXTREMITIES IN SPINA BIFIDA

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Abstract

The authors comment on the treatment of patients suffering from spina bifida. The indications to surgical-orthopaedic approach for lower limb correction in patients with spina bifida are outlined. According to the authors' experience, the therapeutic approach should be aimed at treating deformities of the lower extremities in order to apply orthotic devices, particularly for higher levels of medullary lesion, and to obtain standing and/or gait with support. In the natural history of spina bifida, this purpose has become more and more important, since reduced complications, longer average life, and improved clinical, therapeutic and technological knowledge have radically changed the life expectancy of these patients.

The analysis of a series of 71 patients with spina bifida, treated over 20 years, has enabled the authors to evaluate the main sites of deformities. They examined the surgical procedures carried out in relation to the levels of damage and observed the resulting functional autonomy. The foot was the site which offered the most frequent opportunities for treatment at all levels. Knee deformities were treated in a few cases. In particular, difficulties arose when treating L3-L4-L5 neurosegmental levels of the hip, with the result that today bone correction of this joint is performed in association with muscle transposition (external oblique abdominis m. pro medio gluteus m.) in order to ensure a dynamic correction.

The authors emphasise the need for a more cautious surgical approach, since lower limb alignment, often achieved using orthopaedic aids and splints, is more important from a functional point of view than the anatomic and radiographic correction of the deformities. From a functional point of view, apparently positive neurosegmental levels for functional recovery are damaged by the lack of early training using splints. Actually, even severe clinical conditions can acquire increased functional autonomy if splints are early introduced to aid walking. Moreover, there are increased indications for spinal surgery in patients suffering from severe paraplegia in order to improve cardio-respiratory function. A correct alignment and an adequate application of orthotic devices reduce the frequency of pelvic obliquity, which favours spine deformities.