



Philosophy and Strategy in the Surgical Treatment of ASI

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Study

Adolescent idiopathic scoliosis surgery has been going on for many decades.

In all these years there has been a remarkable development of knowledge and technology, all this has allowed to obtain excellent correction of the deformity and a remarkable restoration of the stability of the rachis.

Our operating series began in 1992 and has continued over the years with a certain numerical constancy, up to now, having operated some hundreds of patients.

We then went through different stages of strategy, philosophy and technology, obtaining satisfactory results in high percentage.

Objectives

The aim of surgery of severe adolescent idiopathic scoliosis is to rebalance the spine, stabilizing the correction obtained to avoid further aggravation of the deformity.

Methods

The history of scoliosis surgery given many decades by Harrington in 1960 to new technologies.

In 1983 the two surgeons Ives Cotrel and Jean Dubousset had the great merit of considering the column in the three planes of the sagittal and axial coronal space, devising a construct that could offer great stability and correction.

In the method the bar was modeled according to the scoliotic curvature, then performing a derotation with the aim of obtaining a correction on the coronal and sagittal plane while in fact a real correction on the axial plane was not obtained.

Over the years, knowledge has been gradually increased to allow an increasingly adequate pre-operative planning and, in parallel, the technologies concerning biomaterials, hooks, screws, bars and the possibility of reducing complications.

Since 2012 we use a prosthetic system associated with a philosophy of correction that has accepted our consent and that in high percentage has allowed us to obtain good results with fewer complications than in the past.

Since 2012 we have performed 150 interventions and we have reviewed 90 patients with a follow-up of one year and a maximum of 7.

We have always modeled the bar on the sagittal plane and corrected the scoliosis by translation, then performing a real direct derotation.

We have associated compression and distraction maneuvers in the selected cases.

We have carried out systems rich in instrumentation, in general, screws and we have connected them with Cobalt Chrome bars.

Results

The results are good in terms of correction and therefore rebalancing of the rachis and therefore of the shoulders and pelvis, maintenance of the correction obtained and also a discrete reduction of the hump. We have not been free from short- and medium-term complications such as mobilization of vines and hooks especially in the proximal part of the construct, poor sagittal balance, unbalance of the shoulders pseudoarthrosis with progressive loss of correction, breakage of the bars, neurological complications fortunately always transient with complete recovery [1-6].

The data of our operating cases seem to deposit for a goodness of the implantation philosophy.

Conclusions

The aim is to rebalance the spine and stabilize it in the arthrodesis area to avoid its development. Where we take extreme care of all these elements the success rates can be high with hospitalization times that have become increasingly shorter and with ever faster return to a normal life. They say that after one year from this surgery the patient can perform a gymnastic activity, even in a competitive nature. Surgery where possible can be selective, sparing the lumbar tract which can therefore maintain its complete mobility. Where this is not possible and therefore it is necessary to block the lumbar segments, the functionality of the spine for the life of the patient is still satisfactory, since 80% of the movement is performed on the hips.

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