

ORAL PRESENTATION

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Relation between the characteristics of A. I. S. and vital capacity in young and adults

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Background

The aim is to reveal the connection between scoliosis characteristics such as Cobb angle, Surface Rotation etc. in comparison with the Vital Capacity in young teenagers as well as in adults.

Material and methods

We have examined 115 young teenagers (107 females and 8 males) and 15 adults (12 females and 3 males), with Thoracic Scoliosis. The age of the teenagers was between 7y and 18y (average 14,2y) and the age for the adults was between 19y and 60y (average 30y). We have used digital X-ray control for the Cobb angle determination, the Formetric 4D for the Surface Rotation and Kyphosis and with the Chest Graph HI 101 Spirometer for determine the Vital Capacity. All the data were analyzed by statistical methods, as well as one by one.

Results

The Cobb angle was measured from 19° to 66° (average 35,4°) for the young patients and 22° to 135° (average 58,73°) for the adults. The Surface Rotation was measured through 1° and 16° (average 7,9°) for the young and 1° and 29° (average 8,9°) for the adults. The Vital Capacity was measured between 46,1% and 116,9% (average 78,9%) for the young and 27% and 105,4% (average 74,68%) for the adults. We found that was no correlation between Cobb angle, surface rotation and Vital Capacity except for the fact that angles that exceeded 50° seemed that influenced the Vital Capacity in young non athletic patients. The same was noticed in the adult's group and especially in adults with Cobb angles higher than 100° , in which the Vital Capacity was measured even at 19,5% . In total we have found that the only correlation that influences the Vital

Capacity was the Hypokyphosis, in which more smaller is the angle such less becomes the Vital Capacity. As these patients are in Schroth program of rehabilitation and Cheneau brace for the last 9 months, we are waiting to see if the results will be changed.

Conclusion

There is no correlation between Cobb angle, Surface Rotation and Vital Capacity but seems it is influenced from the Hypokyphosis. In more seems that sports, singing and special respiratory exercises affect the Vital Capacity.

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