

O40

SUSPECTED HIGH PREVALENCE AND GENDER DIFFERENCE OF SCOLIOSIS CURVES WITH THE APEX AT T12.

Michele Romano

ISICO (Italian Scientific Spine Institute), Milan, Italy

Introduction

To gather information to better describe spine misalignments, an observational study was completed that aimed to calculate the apexes of scoliotic curves. A sample of 13382 curves had been collected. They were distributed into three groups: single curves, double curves, and triple curves.

To reduce the variables and collect clearer data, only the subgroup of single curves, which included 4469 curves, had been isolated.

Among the results of this study, one of the most striking data was the frequency of T12 as the apex of the curves.

The observations clearly showed that 23% of scoliotic curves have T12 as their apex.

Objective (s)

This analysis focused only on the T12 vertebra, which appears to be a crucial segment of the spine when idiopathic scoliosis curves appear.

Study Design

Observational

Methods

A total of 1040 single curves with apex in T12 from scoliosis patients (866 Females and 176 Males) were selected. Mean Cobb degrees and convexity of the curves were calculated. The curves were classified considering some basic features.

Results

The percentage of apex scoliotic curves in T12 is 23% of a group of 4469.

The overall convexity orientation of the curves is 37% to the right.

The mean Cobb degrees of male patients is 18° (median 17)

The mean Cobb degrees of female patients is 20.7° (median 18)

There are no significant differences between the mean Cobb degrees of the right and left convexity curves.

Conclusion and significance

There are no significant differences between male and female scoliosis curves with T12 as apex.

The T12 vertebra has an anatomical conformation different from all others. The shape and orientation of the posterior joints are a hybrid of the joints of the thoracic and lumbar vertebrae, making it an atypical vertebra.

The frequency of scoliotic curves with apex at D12 is the highest of all other vertebrae.

This data combined with the unusual and unique shape of this vertebra makes one suspect a mechanical but still unclear cause of the scoliosis curves that are observed more frequently.