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**IMAGISTIC ASPECT CONCERNING CHANGES IN THE VERTEBRAL SPINE**

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The present study aimed at presenting changes at the vertebral spine, by a group of female patients. The study is relevant for changes at the dorsal spine and includes deviations from the front axle of the spine, named scoliosis. It is important to discover changes at the front axle at the dorsal level from the vertebral spine, in order to apply for a faster recovery program implementation. In this way can be establish the normal functional status for the health, at the female patients with idiopathic scoliosis.

*Key words:* vertebral spine, scoliosis, front axle, female, imagistic aspects

The incidence of changes that appear nowadays at vertebral spine level, is quite common today, in this context, the occurrence of deviation concerns most often the frontal axis [1, 10]. Deviations from the front axle of the spine or scoliosis, respectively, can be found at both males and females [2, 3]. Scoliosis occurring in females is called idiopathic and either a genetic factor nor a specific gene causing this pathology has been yet identified [5, 11]. Among the causes underlying these changes of the spinal axis we mention the rapid increase in height during puberty and adolescence as well as alterations in metabolism and certain mineral imbalances at mentioned ages [6, 9]. Because changes in axle concerning the curvatures of the spine can cause pain, neuralgia, leading to antalgic positions, rigorous medical recovery exercises or physiotherapy is recommended [4]. Therapeutically conducted medical exercises can improve the symptomatology of such axle deviation changes in the spine [4, 7]. Made rigorously, the exercises reduce the symptoms caused by front axle deviations of the spine. From this point of view, it is considered to have a palliative effect because deviations in the spine such as scoliosis cannot be entirely corrected [4, 8]. In this context we can mention that scoliosis can sometimes be unnoticed because it causes no symptoms that affect health, it does not jeopardize the activities of daily living, respectively [12].

**MATERIALS AND METHODS**

This study was conducted in a group of 20 patients, all working jointly, who came to the radiology health unit of the TB dispensary in the Pneumophthisiology Hospital of Brasov for a radiological screening of infection with *Mycobacterium tuberculosis*. Even though after passing the standard radiological investigations the patients were diagnosed with normal lungs, changes in frontal plane axis of the spine drew our attention particularly. Thus, the dorsal scoliosis in these

patients of the study group brought into focus the idea of performing this study. Standard chest X-ray were performed with Swiss-ray DDR radiological device. The patients in the study group were aged between 30 and 40. This population segment is considered important to this study due to the fact that the age group of the patients is, socially reasoned, at maximum of their complex daily activities.

**RESULTS AND DISCUSSION**

The deviations from the front axle of the dorsal column encountered at patients in this study group were considered of interest for this presentation. In this context, the material was selected as standard radiological images, being suggestive for the support of the idea of our study. Figure 1 shows the front axle deviation at thoracic spine level emphasizing an alteration in axis deflection, predominantly in the lower thoracic spine. The radiographic appearance of the spine in this case advocates for dextroconvex scoliosis, the patient being aged 40.

On the standard chest X-ray radiography we can observe changes especially in the lower thoracic spine. Although not visible on standard chest radiography, it is assumed that the front axle changes continue at lumbar spine level as seen at thoracic spine level. This is achieved through changes in the vertebral body, in their bone strength, as well as by alterations of the intervertebral space height between them with their clamping. In conclusion, it is assumed that the existence of these alterations of bone components belonging to the vertebral spine as being also present at lumbar spine segment level. From this point of view, it can be mentioned that sometimes thoracic scoliosis can be continued at lumbar level, too.

Figure 2 was performed at a patient aged 30. It presents a dorsal dextroconcave scoliosis, accompanied by a deterioration of vertebral body

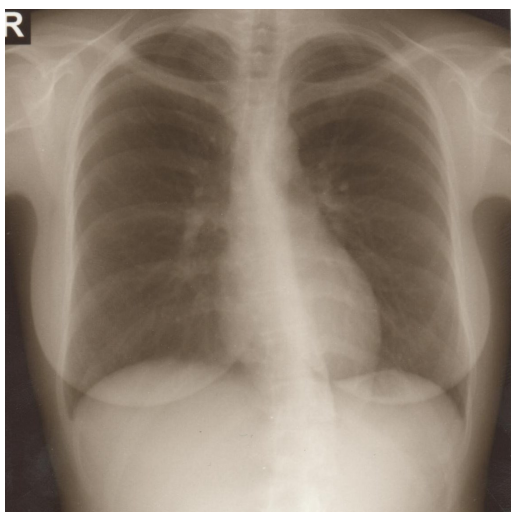


Figure 1 — Normal Chest X-ray.  
Dextroconvex scoliosis

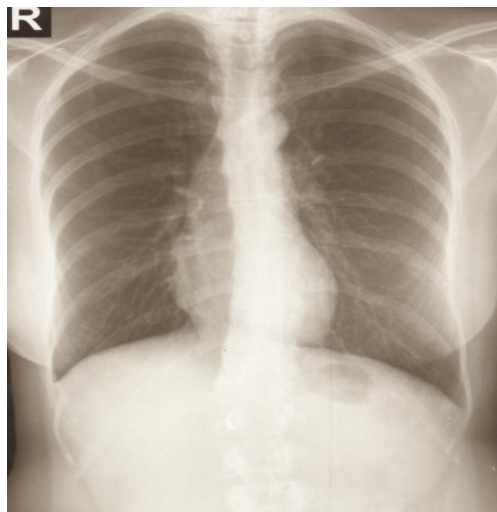


Figure 2 — Normal Chest X-ray.  
Dextroconcave scoliosis

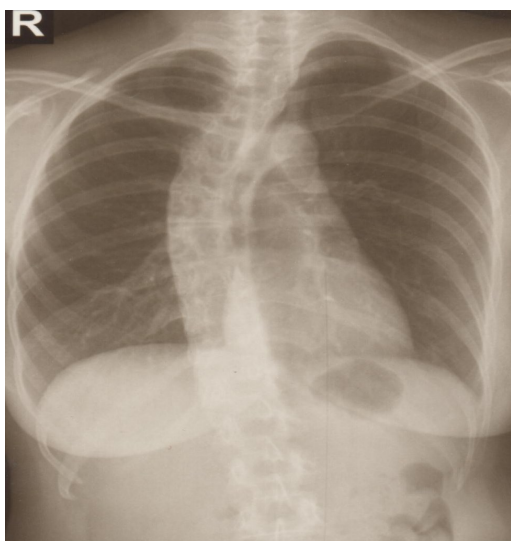


Figure 3 — Normal Chest X-ray.  
Dextroconvex scoliosis

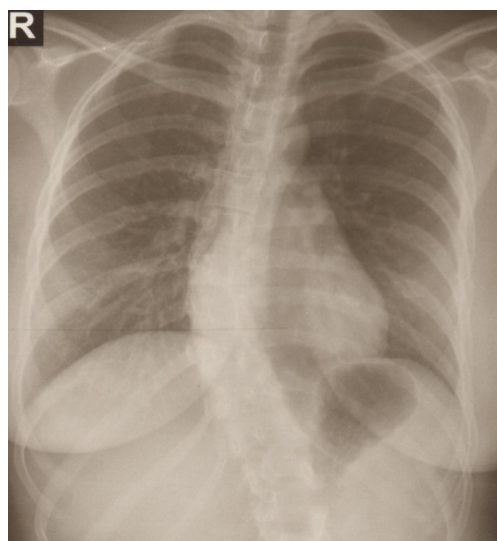


Figure 4. Normal Chest X-ray.  
Dextroconvex scoliosis

appearance, their height, with clumpings at lower thoracic level and possibly adjoining inferiorly, lumbar, respectively. In this context, it may be reminded that scoliosis can continue dorsal lumbar.

Figure 3 was taken of a female patient aged 38. It shows a dextroconvexe dorsal scoliosis. This is accompanied by alterations of the vertebral bodies, of their height with intervertebral clumpings and alterations of bone density, as observed at lower thoracic spine level and possibly at lumbar spine level, constituting dorsolumbar scoliosis.

Figure nr. 4, performed at a patient aged 30, shows a somehow similar aspect to the previous one, dextroconvexe dorsal scoliosis. This is

accompanied by destructions of vertebral bodies, with changes in their height, with clumpings at intervertebral space level, as seen in the lower thoracic spine level and possibly at lumbar spine level, constituting dorsolumbar scoliosis, as observed at the previously presented case above.

#### CONCLUSION

The incidence of changes that occur at front axle level of the spine is a pathology that can be currently found at a young age. If the front axle pathology of the spine is revealed in children, we can intervene to correct it by physiotherapical exercises and physiotherapy, respectively. In adults, unfortunately, practice has proven an inefficiency of medical rehabilitation exercises. In either cases, random screening of these

changes is beneficial in order to develop the idea of implementing health measures if not curatively, at least palliatively and to promote a good state of health of the concerned patients for a proper conduct of their daily activities.

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*ОМЫРТҚАДАҒЫ ӨЗГЕРІСТЕРДІ ДИАГНОСТИКАЛАУДЫҢ ВИЗУАЛДЫҚ ӘДІСТЕРІНІҢ МҮМКІНДІКТЕРІ*

Ұсынылған зерттеу пациенткалар тобында өткізілген омыртқадағы дегенеративті өзгерістерді зерттеуге арналған. Омыртқаның кеуде бөлігіндегі, атап айтқанда омыртқаның алдыңғы осінен ауытқуды (сколиоз) зерттеу мақсат етілген. Сол сияқты арқа бөлігі деңгейіндегі алдыңғы осьтегі өзгерістерді анықтау өте маңызды болып табылады. Себебі идиопатиялық сколиозбен пациенткалар денсаулығының функционалдық жағдайын адекватты қалпына келтіру шараларын мейілінше тез жүзеге асырудың маңызы зор.

*Кілт сөздер:* омыртқа, сколиоз, алдыңғы ось, пациентка, визуалдық аспектілер

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*ВОЗМОЖНОСТИ ВИЗУАЛЬНЫХ МЕТОДОВ ДИАГНОСТИКИ ИЗМЕНЕНИЙ В ПОЗВОНОЧНИКЕ*

Представленное исследование нацелено на изучение дегенеративных изменений в позвоночнике, проведенное в группе пациенток. Предпринято исследование изменений в грудном отделе позвоночника, в частности изучены отклонения от передней оси позвоночника (сколиоз). Крайне важным также является выявление изменений передней оси позвоночника на уровне спинного отдела для более быстрого осуществления мероприятий для адекватного восстановления функционального состояния здоровья у пациенток с идиопатическим сколиозом.

*Ключевые слова:* позвоночник, сколиоз, передняя ось, пациентка, визуальные аспекты