

VERTEBROPLASTY¹

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ABSTRACT

Spinal fracture is a condition that threatens the normal functioning of the spinal cord. It is most common in osteoporosis, traumatic back injury, vertebral metastases, other spinal tumors, and hemangiomas.

Vertebroplasty is performed in cases where traditional methods of treatment do not work, in case of long-lasting and worsening pain and immobilization.

This is a gentle, minimally invasive intervention that provides stability, strengthens the vertebrae and relieves pain. Under X-ray guidance, bone cement is injected into the body of the fractured vertebra.

Indications for performing the method can be: uncomplicated compression fracture in any part of the spine as a result of traumatic effects, progressive hemangioma, creating a threat to the anatomical safety of the vertebrae, local oncological process in the spinal canal, adversely affecting the quality of the bony structures of the spinal elements.

The contribution of the proposed method is to reduce the use of analgesic drugs, to achieve lasting pain relief, to prevent the patient from being bedridden and immobilized, which poses a serious risk to his health, especially if in old age.

Keywords: spinal vertebra, bone cement, vertebroplasty

INTRODUCTION

Spinal fracture is a condition that actually threatens the normal functioning of the spinal cord. There is a risk that part of the fractured vertebra may enter the spinal canal and cause compression of the spinal cord itself or the nerve roots. This can lead to neurological deficits - paresis or paralysis of the relevant part of the body and limbs, depending on the level of damage.

The most serious injuries occur in fractures in the cervical spine, consisting of 7 vertebrae, followed by the thoracic spine, consisting of 12 vertebrae, and the lumbar spine, consisting of 5 vertebrae, sacrum and coccyx.

Vertebroplasty is a method invented and put into practice in 1984. Its main purpose was the removal of hemangiomas of individual vertebrae.

Over time, the spectrum of application of the procedure has expanded and is currently used for compression fractures of the structural elements

of the spine, which most often occur against the background of advanced osteoporosis.

Vertebroplasty is a surgical intervention in which bone cement is injected into the body of a fractured vertebra, which limerises and hardens in about ten minutes, thus hardening and strengthening its structure. The manipulation is performed under X-ray control.

General anesthesia is preferred to maximize comfort for the patient and the neurosurgeon. In addition to healing the vertebra, vertebroplasty also achieves permanent pain relief, the main goal being to prevent the patient from lying down and becoming immobile, which poses a serious risk to his health, especially if he is elderly.

Indications for committing the manipulation are:

- uncomplicated compression fracture in any part of the spine, resulting from traumatic effects;
- progressive haemangioma posing a threat to the anatomical safety of the vertebrae;

¹ The article was presented at the Challenges for Medical Science and Practice in the 21st Century Congress of Medicine, Burgas, 1-3 September 2022

- a local oncological process in the spinal canal, affecting the quality of the spinal structures;
- the absence of positive pro- changes after conservative treatment for vertebral body splitting, characterized by partial loss of mobility, preservation of pain and formation of spinal curvature;

Contraindications for performing the procedure are:

- acute inflammatory process localized in the bone tissue of the spine;
- severe compression of the spinal cord and nerve endings,
- extensive damage to the spine from metastases;
- poor blood coagulation;
- allergic reaction to one or more components of the bone more limer material;

Vertebroplasty is used for fractures of the spine after trauma, due to osteoporosis, or for tumors in the spine, especially metatarsal. The diagnosis of "vertebral fracture" is most often made after spondylo-lography, but in order to assess the necessity and possibility of vertebroplasty, CT or MRI is also performed at the appropriate level.

MATERIAL AND METHODS

A 64-year-old woman presented with a history of back and low back trauma, more severe when slipping and falling on a hard surface.

The neurological examination carried out to assess the functions of the nervous system and the presence of their disorders in the form of neurological symptoms and syndromes revealed vertebra syndrome, no paresis. From the spondylography performed there is evidence of a fracture of the Th12 vertebra (Fig. 1).



Fig. 1 Thoracic spine fracture - preoperative

RESULTS

The patient was operated one day after the trauma. Vertebroplasty was performed under general anesthesia and X-ray control - C shoulder. The patient was in the supine position during the procedure. Through a small incision in the area of the injured vertebra, bone cement was injected into it using a metal needle. The metal needle at the level of the thoracic and lumbar region is inserted transspedicularly. The most important characteristic of the bone cement is its curing speed - about 6 to 11 minutes. During this period it is injected and the fracture is filled.

After performing this manipulation, it is necessary for the patient to be on bed rest for 1-2 hours.

She was dehospitalized on the third day with regression in vertebral and pain syndromes without paresis (Figs. 2 and 3).



Fig. 2 Condition after vertebroplasty

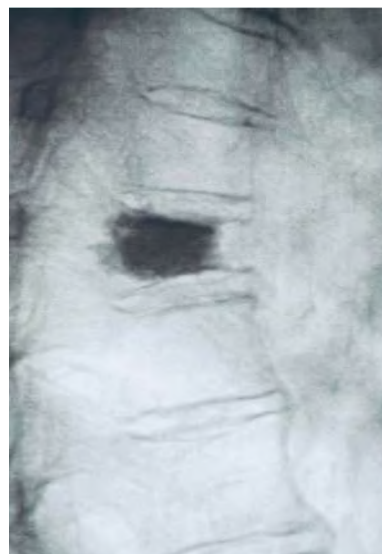


Fig. 3 Condition after vertebroplasty

CONCLUSIONS

The short hospital stay of the patient is an advantage to note in this intervention because within two or three days he is discharged.

The operation is covered by the National Health Insurance Fund and there is no co-payment on the part of the patient, which is essential for quite a few patients.

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