The therapy of vertebral collapses has been enriched for several years from treatment of percutaneous vertebroplasty (PVP), a minimally invasive surgical technique and specific for vertebral collapse secondary to various diseases (bone metastases, osteoporosis, myelomas and angiomas). It was designed with the aim to control pain and to promote early mobilization of the patients. In order to evaluate the efficacy, the optimal timing and the safety of this technique, we have selected 39 patients affected by one or more vertebral fractures caused by osteoporosis and treated with percutaneous vertebroplasty, using polymethyl-methacrylate. The diagnosis of osteoporotic vertebral fracture was done in the emergency room, where these patients had the first access to the hospital. All the patients satisfied the inclusion criteria of the American College of Radiology for percutaneous vertebroplasty and they were treated within a few days of diagnosis. Fourteen of these patients were treated within two weeks after the onset of symptoms and were compared with 25 patients treated in subacute or chronic stage, because they come later in emergency room respect to the occurrence of osteoporotic vertebral fracture. We have examined the results of treatment during a mean follow-up period of one month using the Visual Analogue Scale (VAS) for pain, a modified version of Oswestry Disability Index, drug intake, use of 3-point orthopedic corset and tolerability of the surgery in 37 patients: in the follow-up period two patients have had a new osteoporotic vertebral fracture which has influenced the postoperative recovery, so they were excluded from the results. The preoperative VAS (mean VAS₁ = 9,03) was decreased significantly at one week (mean VAS₂ = 4,46) and one month (mean VAS₃ = 2,76) after vertebroplasty, the mean preoperative value of modified Oswestry Disability Index was decreased of 52 % in the post-operative phase and use of analgesic drugs and 3-point orthopedic corset was reduced significantly. In addition, these findings have indicated that preoperative and post-operative mean values of VAS and modified Oswestry Disability Index were similar between the patients treated in acute phase (mean VAS₁ = 9,21; mean VAS₂ = 4,93; mean VAS₃ = 2,71; percentage reduction of modified Oswestry Disability Index = 51 %) and patients treated in subacute or chronic stage (mean VAS₁ = 8,91; mean VAS₂ = 4,17; mean VAS₃ = 2,78; percentage reduction of modified Oswestry Disability Index = 51 %). The decrease of preoperative mean values of the VAS scale and a modified version of Oswestry Disability Index in postoperative phase is statistically significant (P < 0.0001 for the modified version of Oswestry Disability Index and P < 0.001 for the mean values of VAS scale). The therapy of percutaneous vertebroplasty has confirmed its effectiveness in patients with osteoporotic vertebral collapse, especially has led to a prompt and marked relief of vertebral pain with a significant improvement in the quality of life, furthermore percutaneous vertebroplasty has proven to be a successful therapy particularly in acute osteoporotic vertebral fractures, preventing weeks of pain and disability and reducing greatly and immediately use of analgesics and orthopedic corset.