

VRD REGIMEN FOR TREATMENT OF VERTEBRAL PLASMACYTOMA WITH SPINAL CORD COMPRESSION (CLINICAL CASE)

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Introduction and Aim

Patients with relapsed multiple myeloma (MM), who have received several lines of chemotherapy (CT), have limited specific treatment options and low probability to achieve a complete response. MM relapse increases the risk of secondary infiltration of the body's organs and systems due to soft tissue extramedullary tumors. This clinical case presents the results of patient's management with relapsed MM, which clinically manifested by spinal cord compression on the background vertebral plasmacytoma development at the level of Th5-Th7, the effectiveness of combined CT with bortezomib, lenalidomide and dexamethasone was evaluated.

Case Report

Our case report involves a patient born in 1971, with light Kappa chains Multiple myeloma stage III A (Durie, Salmon), with bone lesions of the skull, ribs, spine (wedge-shaped vertebrae deformation C6, Th3, 5, 7, 8, 9), pelvic bones, femurs, vertebral plasmacytoma at the level of Th5-Th7 with secondary acute spinal cord compression, ischemic myeloneuropathy and senestopathic syndrome.

In August 2020 she was hospitalized to the hematology department of PE "Poltava Regional Clinical Hospital n.a. M.V. Sklifosovsky PCR" with complaints of pronounce sensitivity decrease, paresthesia in the lower extremities, gait disorders, loss of pelvic functions control.

From the anamnesis it is known that patient was diagnosed with multiple myeloma in September 2012 based on changes in the myelogram: 44% of plasma cells. The patient had received 3 lines of chemotherapy: 1) VAD (vincristine, doxorubicin, dexamethasone) in 2012 with a partial response; 2) TCD (thalidomide, cyclophosphamide, dexamethasone) in 2015; 3) and a similar course of TCD in 2018 with further maintenance therapy with thalidomide until December 2019.

The progression of MM was recorded in August 2020. Clinically, MM relapse manifested by progressive neurological symptoms, pelvic dysfunction. The level of free Kappa light chains in the serum was 344.0 mg/l (norm up to 19.4 mg/l). MRI with contrast of the thoracic and lumbar spine diagnosed an intradural extramedullary plasmacytoma of the vertebral canal at the level of Th5-Th7 with spinal cord compression (Fig.1,2).



Fig.1,2. MRI images in August 2020 at the time of third relapse.

In order to treat the third MM relapse, the patient was offered the 4 line of CT: VRd regimen (bortezomib 1.3 mg/m² 1, 4, 8, 11 days, lenalidomide 25 mg per day 1-21 days, dexamethasone 20 mg per day 1, 2, 4, 5, 8, 9, 11, 12 days). After the third course of CT, the general condition of our patient significantly improved, sensitivity in the lower extremities and control of pelvic organ functions were restored. After 8 courses of VRd regimen, a very good partial response was achieved according to the criteria of the International Myeloma Working Group (IMWG): free Kappa light chains in the blood serum decreased to 33.8 mg/l by 90.2% lower. According to MRI of the thoracic and lumbar spine, the extramedular neoplasm on the Th6 vertebrae level significantly reduced, there are myelopathic changes in the spinal cord at this, which occurred after the spinal cord compression by plasmacytoma (Fig.3,4,5). After completing the VRd in April 2021, the patient was followed by lenalidomide maintenance. To date, no progression of MM was recorded during the 12-month period.



Fig. 3,4,5. MRI images in April 2021 after 8 cycles of VRd chemotherapy.

Conclusions

Combined chemotherapy with bortezomib, lenalidomide, and dexamethasone may be the treatment of choice for relapsed patients with soft tissue extramedullary plasmacytomas.

Key words

Multiple myeloma, vertebral plasmacytoma, spinal cord compression, chemotherapy VRd regimen