INTRODUCTION

Plasma cell leukemia (PCL) is a rare and aggressive form of ~~plasma cell~~PC disorder defined by the ~~present~~ presence of ~~more than~~> 5% of clonal ~~plasma cells~~PCs in the peripheral blood [1]. ~~It~~ PCL is divided into primary ~~plasma cell leukemia~~ (pPCL~~)~~ and secondary ~~plasma cell leukemia~~ (sPCL~~)~~. pPCL occurs *de novo* and without ~~a~~ prior diagnosis of multiple myeloma (MM). sPCL indicates progression and leukemic transformation in previously diagnosed MM patients. The survival of patients with pPCL ~~has been~~ improved after 2006 ~~based on~~because of the ~~using~~ use of novel therapeutic agents such as immunomodulators (thalidomide and lenalidomide) and proteasome inhibitors (bortezomib) [2]. However, the median overall survival (OS) after chemotherapy and transplantation was reported to be ~~less than~~< 37 mo~~nths~~ [3,4], which is significantly poorer compared with that of newly diagnosed MM.

As in MM, ~~immunoglobulin~~ IgH translocations in t(11;14) are common in pPCL, and detected in 19.5-%-71% of ~~pPCL~~ cases [5]. ~~And p~~Previous studies [6,7] have indicated that ~~both MM~~ patients with MM and other hematological malignancies with t(11;14) are ~~sensibility~~ sensitive to the bcl-2 inhibitor~~,~~ venetoclax. Here, we report a combination regimen of venetoclax and VRd (bortezomib, lenalidomide- and dexamethasone) in a patient with ~~a~~ newly diagnosed pPCL with t(11;14), who achieved a very good partial response (VGPR) after two cycles.

DISCUSSION

pPCL is a rare and aggressive variant of MM, and the clinic presentation and cytogenetic characteristics of pPCL differ~~s~~ from ~~that~~ those of MM[8]. The median age ~~of~~ at diagnosis of pPCL patients ~~are~~ is younger. Light chain or non-secretory disease is more common than in MM. Most pPCL patients present with abnormal ~~LDH~~lactate dehydrogenase, advanced stage, leukocytosis, anemia, thrombocytopenia, renal impairment, high tumor burden and extramedullary involvement. ~~Opposite~~In contrast, lytic bone lesions are seen less frequently in pPCL. Genetic aberrations are identified by cytogenetic and FISH analysis, and the most frequent findings in pPCL are ~~as follows~~: t(11;14), t(14 ;16), del(13q), del(17p13), and

1q21 amplification. FISH analysis in our patient showed deletion of 13q14 and t(11;14)(q13;q32) translocation. In ~~myeloma~~MM, patients with t(11;14) are more likely present with high expression of bcl-2, ~~that are~~which is strongly associated with sensitivity to venetoclax[7].

The prognosis of pPCL is poor due to the high incidence of adverse clinical and laboratory features as compared to MM. As a result, induction therapy should start as soon as possible after diagnosis. So far, published data demonstrate that induction therapy with bortezomib-based combinations is an ideal~~ly~~ choice [9,10]. Given the high tumor burden (63.59% of PCs in the peripheral blood) and cytogenetic aberrations ~~(~~[deletion of 13q14 and t(11;14)(q13;q32) translocation~~)~~] in our patient, he ~~taken~~ received initial therapy with ~~VRD~~ VRd plus venetoclax as soon as he was ~~diagnosis~~diagnosed. ~~Combination therapy with venetoclax in p~~Patients with relapsed or refractory MM~~,~~ ~~patients~~ have received combination therapy with venetoclax 800 mg daily in clinical trials [11,12]~~.~~. However~~,~~ the recommend dose of venetoclax for pPCL patients is unclear. Venetoclax was administered at 300 mg daily in combination therapy for ~~the treatment of~~ refractory pPCL in two case reports [13,14]. ~~In o~~Our patient also received venetoclax 300 mg daily. Fortunately, the patient achieved VGPR after two cycles ~~after the~~of combination chemotherapy. ~~While,~~Although it has a fast response~~, but,~~ early and frequent relapse are a ~~main~~ major challenge in pPCL treatment. ASCT ~~and~~ followed by maintenance therapy is currently recommended to prolong remission in all transplant-eligible patients [3]. Consolidation and maintenance therapy ~~is~~ was needed for our patient after ~~end of~~ induction therapy as he ~~wasn't~~ did not wish to undergo~~ing~~ ASCT.

Daratumumab is a human monoclonal antibody that targets CD38, which ~~is~~ was approved by the US Food and Drug Administration ~~(FDA)~~ in 2015 for the treatment of relapsed/refractory MM. Previous studies have indicated that ~~Daratumumab~~ daratumumab monotherapy or combination with either proteasome inhibitors or immunomodulators ~~was~~ is ~~an~~ efficacious ~~treatment~~ for relapsed/refractory MM~~,~~ ~~patients that~~with improved depth of response, duration of response~~,~~ and survival [15,16]. ~~Furthermore, d~~Daratumumab-based triplet or quadruplet regimens ~~were~~ have

also ~~showed~~ shown superior progression-free survival and overall response in newly diagnosed MM [17,18]. However, there are no published data that confirm its efficacy in pPCL ~~so far~~. There are a ~~small~~ few ~~number of~~ case reports ~~that showed~~of a rapid and good response in newly diagnosis pPCL after induction therapy with combination of daratumumab [19,20]. Our patient~~s~~ received daratumumab-containing treatment as consolidation therapy when he suffered unacceptable toxic effects from bortezomib. Currently, the patient is receiving daratumumab and venetoclax as maintenance therapy.