BSH 2020 VIRTUAL
9 -14 NOVEMBER
British Society for Haematology
Listening • Learning • Leading
60 1960–2020

Vyxeos in high risk MDS as induction therapy prior to stem cell transplantation

A. SWAN[1], L. ANNE-LOUISE[2], V. CAMPBELL[3]
1 Victoria Hospital Kirkcaldy, NHS Fife, Fife UK
2 Queen Elizabeth University Hospital, NHS Greater Glasgow and Clyde, Glasgow
3. Western General Hospital, NHS Lothian, Edinburgh UK

NHS Lothian NHS Greater Glasgow and Clyde NHS Fife

INTRODUCTION

Myelodysplastic syndromes (MDS) are a heterogeneous group of clonal stem cell disorders characterised by cytopenias. There are ten distinct subtypes, categorised into three broad risk groups on the basis of predicted survival time and risk of evolution to acute myeloid leukaemia (AML)(1) .

Management ranges from supportive care to drug therapy and stem cell transplantation (SCT). Therapy decisions depend on risk stratification and patient factors, including performance status and age.

Vyxeos is a liposomal, synergistic combination of cytarabine and daunorubicin, preferentially taken up by leukaemic cells. Phase III data, showing Vyxeos to improve median overall survival compared to conventional intensive treatment in older patients (60-75 years) with poor risk AML (p=0.003), led to NICE and SMC approval of Vyxeos as a treatment option for untreated therapy-related AML and AML with MDS-related changes (12/2018 and 03/2019 respectively)(2).

Here we present a patient with high risk MDS who received Vyxeos, through compassionate access, as induction therapy prior to stem cell transplant.

BACKGROUND

A 59- year old female initially presented to her GP in April 2018 with a 3 week history of spontaneous bruising on her legs and arms. She had no past medical history and was not taking any regular medications. Bloods performed demonstrated low haemoglobin and low platelets and she was referred into the haematology unit for further assessment (table 1). She had no evidence of infection and was feeling well in herself.

INVESTIAGTIONS

On examination she had no evidence of mucosal bleeding but scattered bruising on her arms and legs. She had no palpable hepatosplenomegaly but ultrasound confirmed a moderately enlarged spleen at 15cm. Review of her blood film demonstrated a leucoeryrthroblastic picture with circulating blasts and dysplastic neutrophils. Her B12 was markedly elevated at over 2000 pg/mL which can be seen in myeloproliferative neoplasms.[7] Bone marrow aspirate yielded a dry trap and trephine rolls demonstrated trilineage dysplasia with 7% blasts and grade 2 fibrosis. Further samples were sent for cytogenetic testing.

Given the above results this patient was diagnosed with myelodysplastic syndrome with excess blasts and fibrosis with R-IPSS score of intermediate. Active monitoring was continued. In July 2018 bloods demonstrated a fall in her counts and repeat bone marrow demonstrated an increased blast count of 12% with a marked neutrophil dysplasia. This was suggestive of progressive disease and her R-IPSS score was now high.

TREATMENT

Treatment was initiated with CPX-351 through compassionate access programme with a plan to consolidate her response with allogenic PBSCT. A Hickmann line was inserted and she was admitted for elective treatment in August 2018. Treatment was delivered on alternate days over one week with cardiac monitoring and daily electrolytes.

Adverse events included bleeding and neutropenic sepsis. Bleeding was noted from her Hickmann line that required dressing changes, tranexamic acid and platelet transfusions. An L7 dental abscess was extracted under the maxillofacial team and she completed a course of IV tazocin.

Following her discharge she continued to attend the haematology day unit for pancytopenia management and on day 37 underwent repeat bone marrow aspirate. This was an aparticulate sample but with no blasts seen.

In November 2018 she successfully underwent stem cell transplantation. She has completed antiviral treatment for CMV reactivation and RSV but her most recent virology remains negative. There is no clinical evidence of graft versus host disease and her counts have returned to normal (table 1).

Table 1: Full blood count trend

	Hb g/l	Neuts x10-9/l	PLT x 10-9/l
April 2018	108	16.72	76
May 2018	103	13.64	64
July 2018	82	9.28	45
October 2019	123	2.19	230

CONCLUSIONS

In conclusion CPX-351 was a well-tolerated chemotherapy regime in this patient allowing successful treatment with progress to stem cell transplantation. Side effects from treatment were in keeping with those previously documented.

Importantly, the introduction of CPX appears to provide a new treatment option for patients with high-risk MDS leading to a higher chance of receiving stem cell transplantation.

REFERENCES

1. Lancet JE, Uy GL, Cortes JE, Newell LF, Lin TL, Ritchie EK, et al. Final results of a phase III randomized trial of CPX-351 versus 7+3 in older patients with newly diagnosed high risk (secondary) AML. J Clin Oncol. 2016;
2. Lancet JE, Uy GL, Cortes JE, Newell LF, Lin TL, Ritchie EK, et al. Cpx-351 (cytarabine and daunorubicin) liposome for injection versus conventional cytarabine plus daunorubicin in older patients with newly diagnosed secondary acute myeloid leukemia. In: Journal of Clinical Oncology. 2018.

CONTACT INFORMATION

Dr Amanda Swan

Amanda.J.Swan@nhslothian.scot.nhs.uk