Oxford University Hospitals NHS
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Disease progression in patents with essential thrombocythaemia receiving anagrelide within a single institution.

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INTRODUCTION:

Anagrelide is currently used as a second-line treatment to lower platelet counts in essential thrombocythaemia (ET).

Since the PT1 study[1], there has been interest in the potential increased risk of myelofibrotic transformation in ET patients treated with anagrelide.

Current BSH guidelines advocate monitoring bone marrow trephines at 3 yearly intervals for those treated with anagrelide to monitor for signs of emerging fibrosis[2].

AIM:

To identify clinical outcomes and features of ET patients who received anagrelide in our centre.

The results were compared with a similar data set from patients receiving hydroxycarbamide, which is commonly regarding as the first line agent of choice in the management of thrombocythaemia.

METHODS

A retrospective chart review was performed to identify all patients prescribed anagrelide between January 2012 to December 2018 using pharmacy records and electronic patient notes.

The results were compared with a similar data set from patients receiving hydroxycarbamide, which is commonly regarding as the first line agent of choice in the management of thrombocythaemia.

RESULTS

37 patients treated for a minimum of 2 consecutive months within the study period.

Average duration of treatment 43 months (3-132 months)

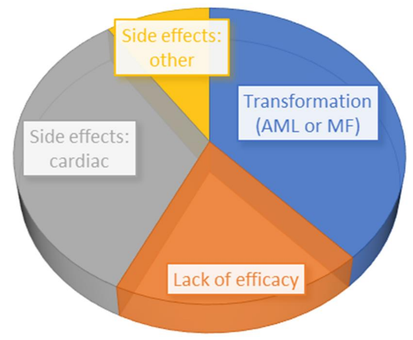
30% of patients had a bone marrow trephine before commencing on anagrelide.

RESULTS

During study period 57% (21/37) discontinued treatment for:

- Disease transformation
- Lack of adequate response
- Side effects: 70% of which were related to cardiotoxicity

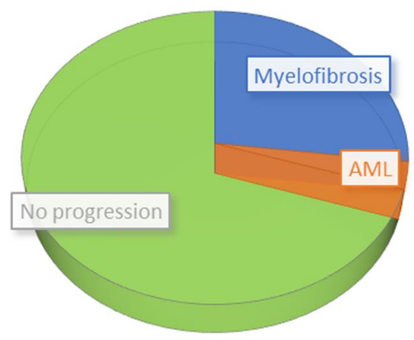
REASONS FOR DISCONTINUATION



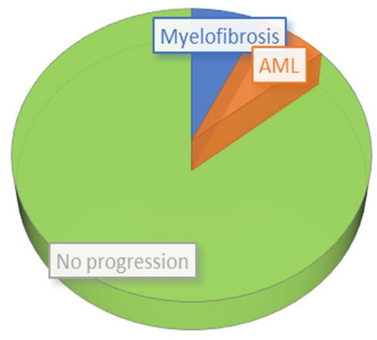
27% of patients taking anagrelide transformed to myelofibrosis and 3% developed acute myeloid leukaemia.

As a comparison, a similar study at our institution reviewing the outcome of 27 patients taking hydroxycarbamide identified 7% progressing to myelofibrosis and 7% developing acute myeloid leukaemia.

DISEASE TRANSFORMATION - ANAGRELIDE



DISEASE TRANSFORMATION - HYDROXYCARBAMIDE



The rate of myelofibrotic transformation was significantly higher in patients treated with anagrelide with a Chi squared value of 3.9 and P value of 0.047.

CONCLUSION

These findings highlight the higher incidence of fibrosis development in patients treated with anagrelide.

This has implications both for informed consent and monitoring of patients treated with this agent.

Screening for baseline fibrosis with a bone marrow biopsy prior to commencement of anagrelide is important, with careful monitoring for signs of progression in patients on treatment. Within our local network we have updated guidance to advocate consideration of bone marrow biopsies every 3 years for those treated with anagrelide.

REFERENCES:
1. Harrison CN, Campbell PJ, Buck G et al (2005). Hydroxyurea compared with anagrelide in high-risk essential thrombocythemia. *New England Journal of Medicine*, 35(1): 33-45
2. Harrison CN, Butt D, Campbell P et al (2010). Guideline for investigation and management of adults and children presenting with thrombocytosis. British Journal of Haematology, 149, 352-375.