

Adding Plinabulin (Plin) to Pegfilgrastim (Peg) Reverses the Immune-Suppressive Potential of Peg while Offering Superior Prevention of Chemotherapy-Induced Neutropenia (CIN) versus Peg Alone

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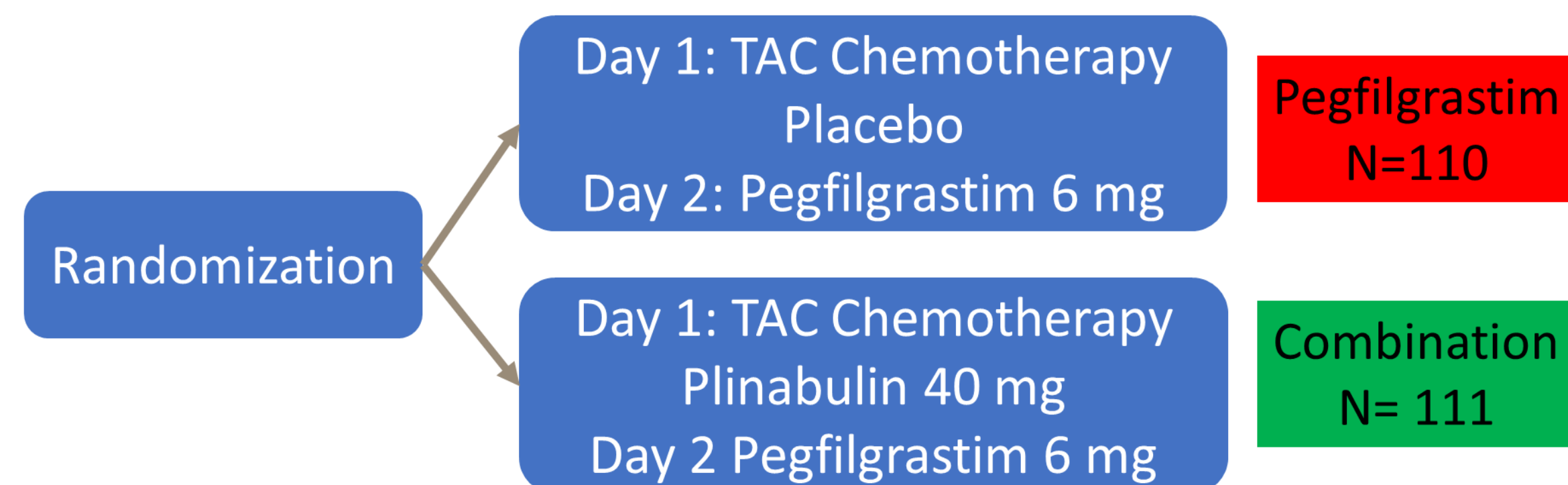
BACKGROUND

- Pegfilgrastim, a long-acting G-CSF is standard of care for the prevention of Chemotherapy Induced Neutropenia.
- Pegfilgrastim produces de-novo immature neutrophils (bands, promyelocytes/myelocytes), which have similarity to granulocytic myeloid derived suppressor cells (gMDSCs)¹.
- The gMDSCs cells are known to promote metastatic growth by reverting EMT/CSC phenotype and tumor cell proliferation.²
- Combining Plinabulin with Pegfilgrastim can result in superior CIN protection throughout the entire cycle and also reverses the immune suppressive potential with Pegfilgrastim alone.

¹(Pillay CellMolLifeSci 2013) ²(Ouzonova Nature 2016).

METHODS

PROTECTIVE-2 (NCT03294577) is a global, multicenter, randomized, double-blind study to evaluate Severe Neutropenia in early-stage breast cancer patients.



TAC Chemotherapy: docetaxel 75 mg/m², doxorubicin 50 mg/m², cyclophosphamide 500 mg/m²

Primary endpoint (tested for superiority):

- Percentage of patients who had no days of severe neutropenia (DSN) in Cycle 1.
- The pre-defined endpoint of frequency of Neutrophil Bands, Promyelocytes/Myelocytes was evaluated by Covance central laboratory through Day 0 of Cycle 1 to Day 0 of Cycle 2.

Combination plinabulin/pegfilgrastim vs pegfilgrastim alone

Superior CIN protection

- Grade 4 Neutropenia frequency was 68 % vs 86% (p=0.0015)

Reduced production of de-novo immature Neutrophils

- Lower Frequency of Neutrophil Bands (p=0.0012)
- Lower Frequency of Promyelocytes/Myelocytes (p=0.0488)

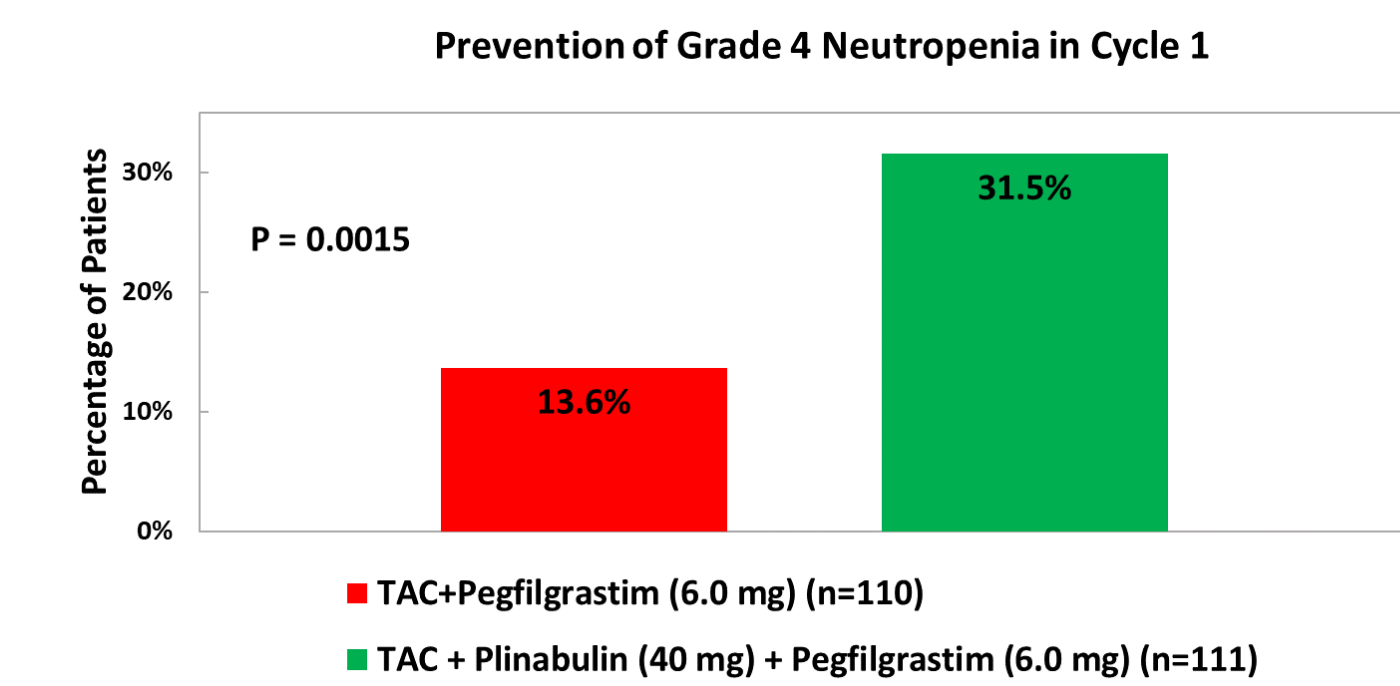
FUTURE DIRECTIONS FOR RESEARCH

- Plinabulin's CIN Preventive Effects in Hematologic Malignancy
- Plinabulin Anticancer Effects:
 - In Combination with I/O Agents +/-Chemotherapy or Radiotherapy
 - A Trial to Confirm Plinabulin's Anti-Cancer Effects in NSCLC has been Completed, with Final Data Readout Q3 2021
- Pediatric Study in Sarcoma Patients

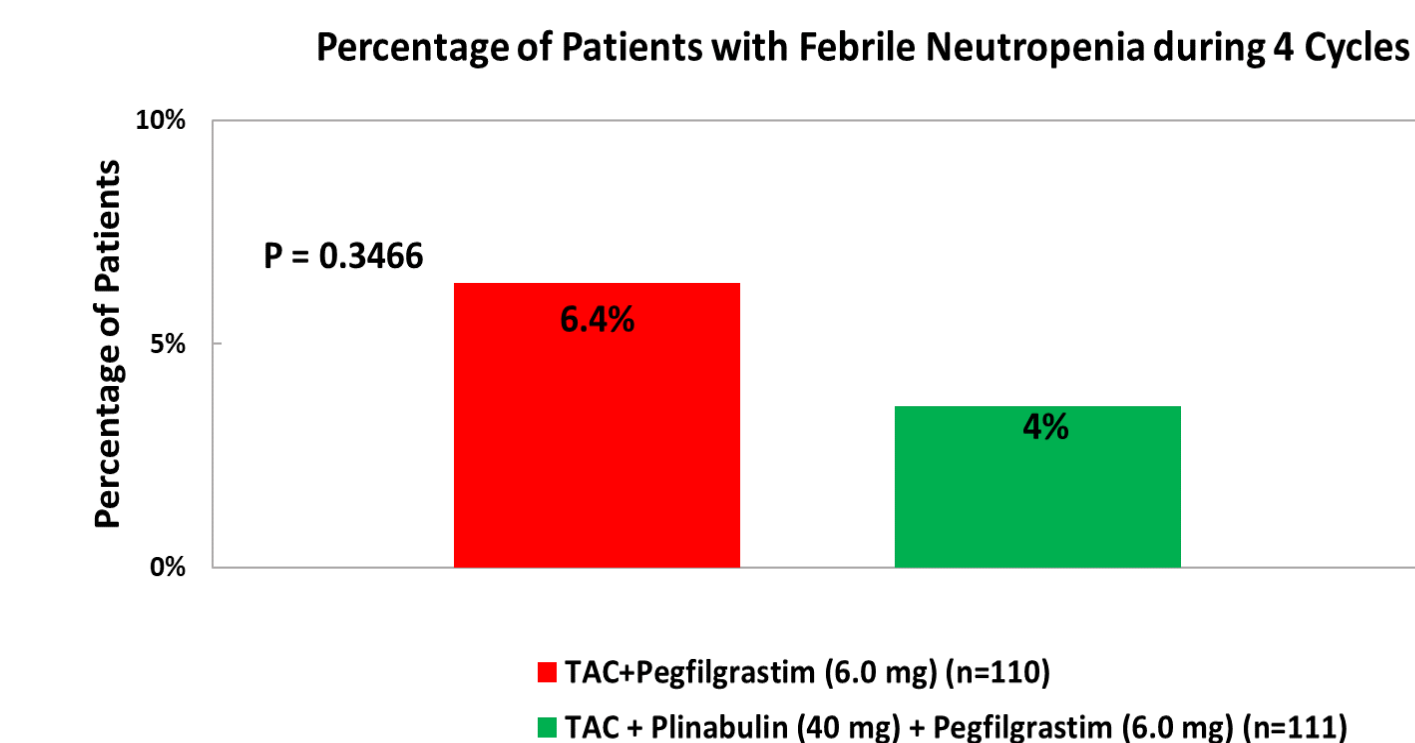
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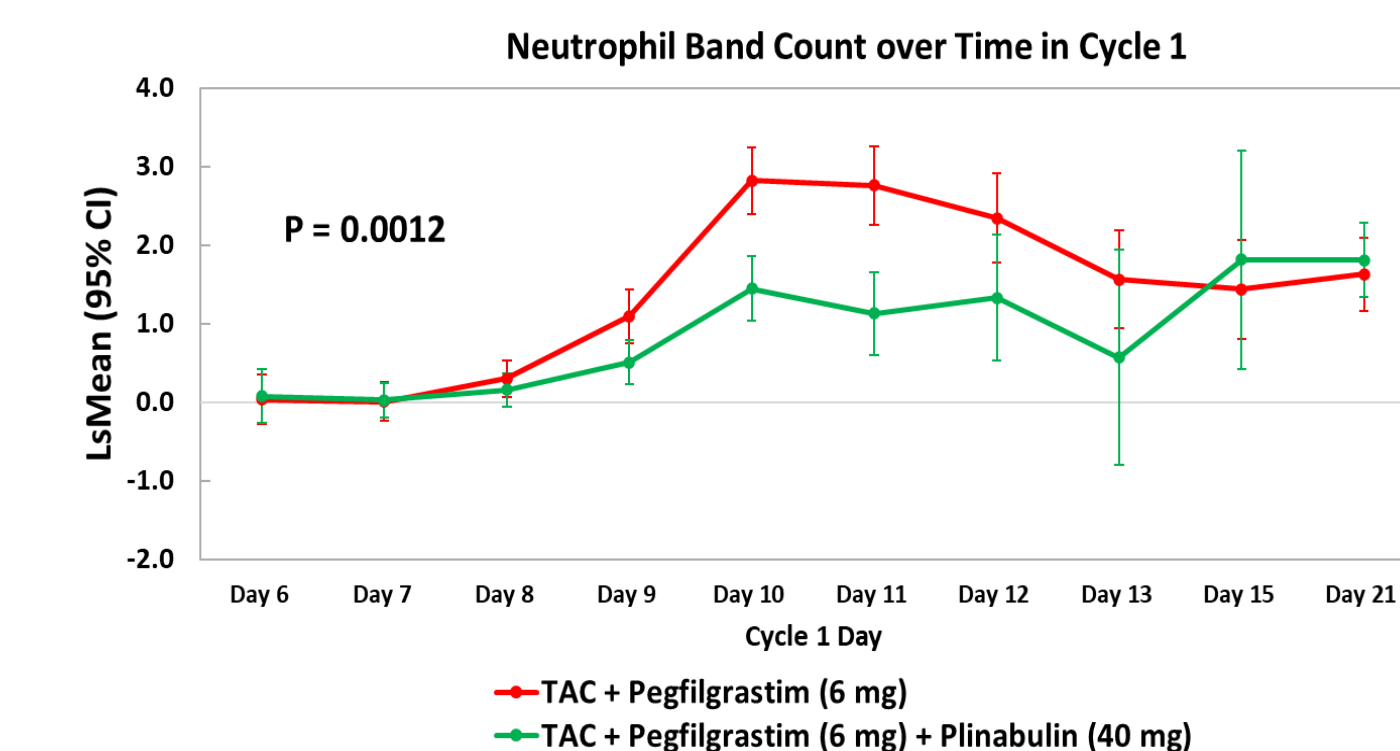
RESULTS



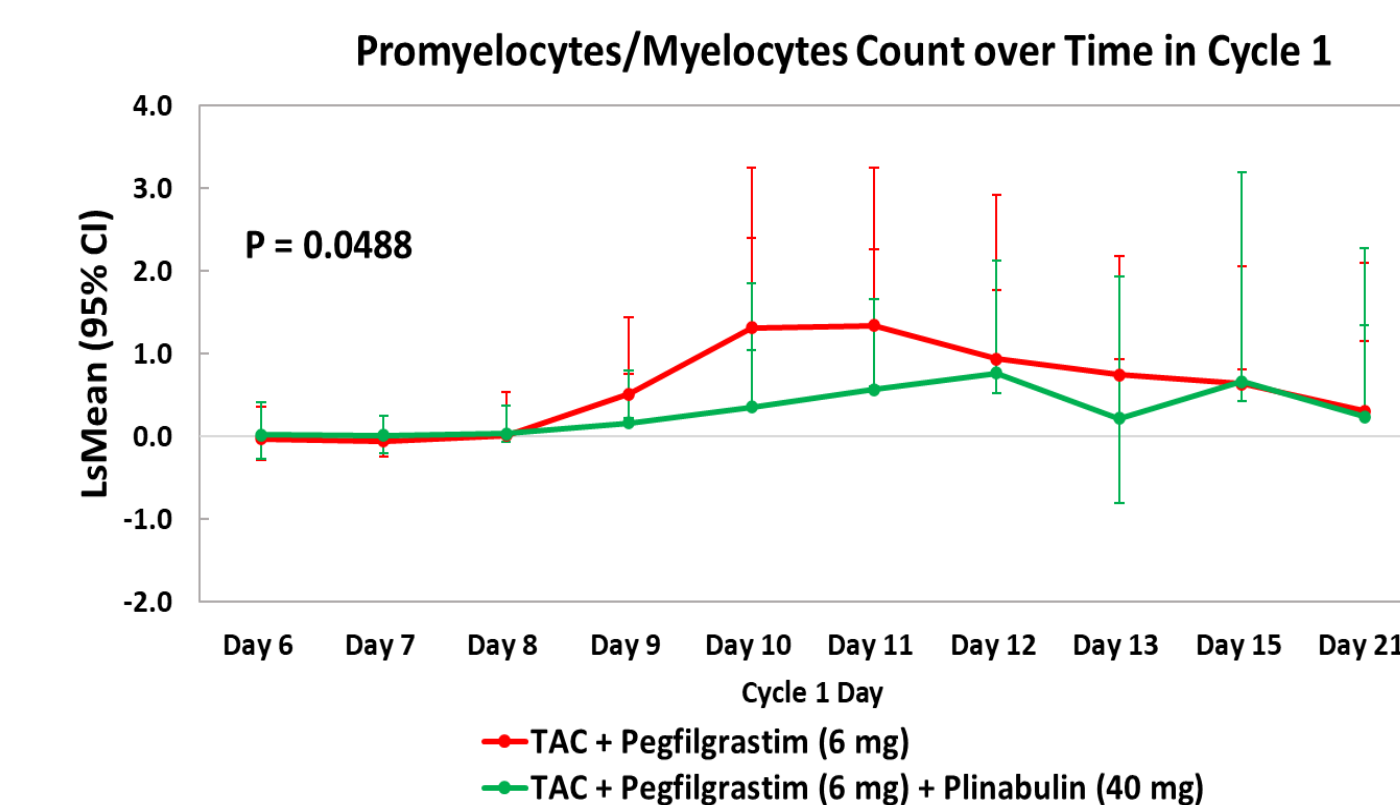
Significantly higher Grade 4 neutropenia prevention was seen in combining Plinabulin with Pegfilgrastim



Lower percentage of febrile Neutropenia was seen in combining Plinabulin with Pegfilgrastim



Decreased immature Neutrophil Band production was seen in combining Plinabulin with Pegfilgrastim



Decreased Promyelocytes/Myelocyte production was seen in Combining Plinabulin with Pegfilgrastim