BORTEZOMIB PRESCRIPTION PATTERN FOR THE TREATMENT OF MULTIPLE MYELOMA BY HAEMATOLOGISTS IN NIGERIA

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Since the late 1960s, the standard therapy for multiple myeloma (MM) was melphalan and prednisolone.¹

The introduction of novel therapy in the late 1990s has dramatically changed the outcome of patients with MM.²

Current National Comprehensive Cancer Network guidelines give Bortezomib-based combinations a central role in the management of MM.

P. Falco et al. Expert Review of Anticancer Therapy http://dx.doi.org/10.1586/14737140.7.7.945
Therapeutic options for MM are limited in Nigeria because
- *novel drugs are not readily available*
- *are high-priced*
- *majority of patients make out-of-pocket payment for chemotherapy prescriptions*
- *unavailability of HSCT facilities to treat haematological malignancies*

Making for inadequate treatment and poor outcome
Aim

■ To assess the use of Bortezomib for the treatment of MM by haematologists practicing in Nigeria.
Methods

- Cross-sectional observational survey.
- Structured, pre-validated questionnaires were administered to different cadres of haematologists.
- Data collected was analyzed with Statistical Package for Social Sciences (SPSS), software version 21.
Results

- There were 54 respondents from 24 centers across the country.
- The estimated average number of myeloma cases per centre was $12.1 \pm 11.4$ (median of 10) with an average of $2 \pm 1.8$ new cases seen per month.
The most frequently used drugs for first line therapy were
- *thalidomide* (66.7%)
- *dexamethasone* (54.2%)
- *bortezomib* (48%)

A combination of bortezomib, thalidomide and dexamethasone (16.7%) was the most frequently used first line regimen
Fig 1: Drugs used as part of first line therapy
Fig 2: First line chemo regimen used

BTD- bortezomib, thalidomide, dexamethasone; MPT- melphalan, prednisolone, thalidomide; B+- bortezomib based; TD- thalidomide, dexamethasone; BLD- bortezomib, lenalidomide, dexamethasone; CTD- cyclophosphamide, thalidomide, dexamethasone; MP- melphalan, prednisolone; MTD- melphalan, thalidomide, dexamethasone; VTD- vincristine, thalidomide, dexamethasone; BM- bortezomib, melphalan; BMP- bortezomib, melphalan, prednisolone; CVAP- cyclophosphamide, vincristine, adriamycin, prednisolone; Len+- Lenalidomide based; MT- melphalan, thalidomide; T+- thalidomide based; BD- bortezomib, dexamethasone; TP- thalidomide, prednisolone; VAD- vincristine, adriamycin, dexamethasone
Of the 54 haematologists,
- 39 (72.2%) had prescribed bortezomib previously,
- 15 (27.8%) had never used bortezomib for the treatment of MM

Major reasons for not prescribing:
- drug unavailability (86.7%) and
- cost (46.7%).

About 56.4% of responders had patients who had experienced side effects, of which neuropathy was the commonest (86.3%).
No one had used bortezomib as monotherapy

- The drugs most frequently used with bortezomib were:
  - dexamethasone (74.4%)
  - thalidomide (53.9%)
  - prednisolone (28.2%)
  - lenalidomide (18%)
  - melphalan (10.3%)
  - vincristine (2.6%)
  - adriamycin (2.6%)

- Bortezomib dose prescribed
  - 10 (25.7%) prescribed the dose of 1.3mg/m²
  - 10 (25.7%) prescribed 2mg
  - 1 (2.56%) prescribed 1mg to patients
  - 7 (17.9%) could not remember the dose of bortezomib prescribed
  - 11 (28.2%) did not respond.
- Frequency at which Bortezomib is given
  - Days 1,4,8,11 in a 21 day cycle by 13 (35.9%)
  - Weekly (Days 1,8,15,22) in a 28 day cycle by 9 (23.1%)
  - Weekly (Days 1,8,15) in a 28 day cycle by 8 (20.5%)
  - Every 2 weeks (Days 1,15) by 3 (7.7%)

- Route of administration
  - Intravenous route by 25 (64.1%)
  - Subcutaneous route by 9 (23.1%)
  - Either route by 2 (5.1%)
Side Effects of Bortezomib

More than half (56.4%) of those who prescribed bortezomib had patients who had experienced side effects of the drug which include:

- Neuropathy
- Nausea
- Vomiting
- Cytopenias
- Diarrhea
- Cough
16 (41%) participants had patients who discontinued bortezomib therapy. Reasons:
- Cost of the drug (n=12, 75%)
- Side effects (n=5, 31.2%)
- Completion of therapy (n=4, 25%)
- Non-compliance by the patient (n=3, 18.8%).

When asked about their assessment of patient’s response to bortezomib,
- 15 (55.6%) of those who commented felt that their patients had a good response to therapy, 5 (18.5%) felt the response was very good.
Conclusion

- BTD was the most frequently used first line regimen to treat myelomatosis.

- Thalidomide and dexamethasone were the most frequently used drugs in myeloma treatment.

- Despite poor access to healthcare, coupled with the high cost and poor availability of bortezomib in our low/middle income country, those who prescribed bortezomib, did so frequently.
References
