Meningiomas are the most frequent primary brain tumours. Despite the high rate of relapse after surgical resection and radiotherapy no systematic treatment is indicated. Few data are available regarding the effectiveness of bevacizumab (BEV) in this setting. We performed a retrospective analysis investigating the efficacy and safety of BEV in meningioma patients relapsed after receiving surgery and radiotherapy. Gene mutations were also collected.

**Methods**

We analyzed pts treated with off-label BEV from Jul 2019 to Feb 2022 (BEMEN trial). Inclusion criteria were diagnosis of grade 2-3 meningioma, previous treatment with surgery and radiotherapy, no indication to further surgery or reirradiation, absence of contraindications to the use of BEV. Data were extrapolated from clinical records. BEV was administered until progressive disease, death, unacceptable toxicity. Kaplan-Meier curves were used to estimate the survival rate; CTCAE v 5.0 was used to estimate toxicities; RANO criteria were used for radiological assessment; Foundation One panel was used for molecular data.

**Results**

Median follow up was 13 months (3-30 range). 26 pts were enrolled. Median age was 68 ys (29-84); male pts were 16 (61%);16 (61%) pts with atypical meningioma, 38.5% (10 pts) with anaplastic meningioma; 27% (7 pts) underwent 2 or more surgeries; 58% had 2 or more RT treatments; 96.1% (25 pts) received <2 previous lines of systemic treatment. 77% (20 pts) and 23% (6) received BEV 10 and 5mg/Kg q2w, respectively. For 61% of patients (16 pts), NGS analyses were available; 62% (10 pts) had NF2 mutations (1 pt had a confirmed diagnosis of neurofibromatosis type 2), 23% (6 pts) CDKN2A/2B deletion, 11% (3 pts) PTEN mutation, 8% (2 pts) FGFR mutation, 8% (2 pts) JAK alteration. OS rate was 82% and 62% at 6 and 12 months respectively; 6 months PFS rate was 83%. 4 pts showed PR, 11 SD, 6 PD, no pt had CR; 5 pts were not evaluable for response. The DCR was 71% and the ORR was 19%. Median PFS and OS were not reached. 19% (5 pts) experienced CTCAE grade 1 or 2 toxicity, mainly hypertension (4 pts).

**Conclusions**

BEV showed promising activity in recurrent meningioma. The treatment was well tolerated. BEV should be considered an optimal therapeutic option in this setting. The NGS results might be useful in identifying targetable mutations in case of further recurrence.

The authors have no conflict of interest to declare