**Bicky Thapa**

**Clinical outcomes of single agent bevacizumab therapy in recurrent GBM: Cleveland Clinic Experience**

**Background:** Glioblastoma (Grade IV) is the most common malignant brain tumors in adults and is associated with dismal prognosis. Bevacizumab has been used as salvage therapy especially after recurrence and it has shown to have increased progression free survival (PFS) and overall survival (OS) either alone or in combinations. We report survival benefit of bevacizumab in recurrent GBM and its association with molecular markers.

**Methods:** We reviewed 258 patients with recurrent GBM from 2012- 2017 after IRB approval. A total of 65 patients received single agent therapy with bevacizumab after first recurrence. The median OS, median PFS and its association with molecular marker were analyzed for this cohort of patients who received single agent bevacizumab.

**Results:** Out of 258 patients, 82 patients received bevacizumab as single agent or combinations but only 65 patients had single agent bevacizumab after first recurrence. 23 patients harbored EGFR mutation, 3 patients had IDH mutation and 14 patients were MGMT methylated. Median overall survival (OS) was 354 days (p value of 0.58) and median progression free survival (PFS) was about 179 days (p value of 0.24). On further analysis using molecular markers, median OS in EGFR amplified and non-amplified were 347 and 384 days with p value of 0.316; IDH mutated and wild type had median OS of 363 and 325 days with p value of 0.425; median OS in MGMT methlylated and unmethylated were 462 and 301 days with p value of 0.042.

**Conclusion:** In our study bevacizumab is found to have efficacious in patients with MGMT methylation as compared to other mutations however there was no statistical significance in median overall survival and progression free survival in whole cohort.