

## **Long Term Survival of Patients with Metastatic Melanoma (MM) treated with Dacarbazine (DTIC) or Temozolomide (TMZ)**

**Christina Kim MD, Christopher W. Lee MD, Richard Klasa, Amil Shah, Kerry J. Savage MD MSc**

**Background:** Patients with metastatic melanoma (MM) generally have a poor prognosis, with a median survival of 6 to 9 months. There is a small proportion of patients who achieve long term survival (LTS), however, it is unclear whether LTS reflects sensitivity to systemic therapy, indolent tumor biology or host immune factors. Dacarbazine (DTIC) is the only approved chemotherapy for the treatment of MM, although temozolomide (TMZ) has similar efficacy. There is limited information as to the frequency of complete response (CR) following DTIC or TMZ, duration of response and whether LTS occurs only in patients who achieve a CR. We sought to identify all patients with MM treated with either DTIC (alone or in combinations) or TMZ at the BC Cancer Agency (BCCA) who achieved LTS defined as survival  $\geq$  18 months from the time of administration of chemotherapy.

**Methods:** All patients with MM treated with either DTIC or TMZ from January 1, 1988 to February 1, 2006 were identified in the BCCA pharmacy database. The BCCA surveillance and outcomes unit (SAO) was utilized to identify cases of LTS. CR was defined as disappearance of all disease by diagnostic imaging. Given the retrospective nature of the analysis, progressive disease (PD) was defined as any tumor growth, and partial response or stable disease (PR/SD) were combined.

**Results:** In the 18-year period reviewed, 397 patients with MM were treated with DTIC (n= 349) or TMZ (n=48). Of these, 45 patients met the criterion of LTS and had the following characteristics: median age 53 (range 22-86); male 67 %; ocular primary 7%; non-pulmonary visceral metastases 38%; DTIC 11.7% (41/349), TMZ 8.3% (4/48). The best response to DTIC or TMZ documented was: CR 18%, PR/SD 67%, PD 13%. The 5-year overall and progression-free survival rates were 33% and 12%, respectively. Eleven patients survived > 5 years (range 5-27.5), and 6 patients remain in remission (5 CR, 1 PR). Disease progression occurred in 5 patients in < 1 year however, they remain alive for at least 5 years (range 5.2-17.9).

**Conclusions:** LTS occurs in patients with MM treated with either DTIC or TMZ. However, a minority have a sustained response following chemotherapy, and most cases of LTS are likely the result of indolent disease or host biology.