

Review of the Melanoma Cases Treated at Lehigh Valley Health Network in 2013

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Review of the Melanoma Cases Treated at Lehigh Valley Health Network in 2013

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Introduction

- ❑ Melanoma of the skin is estimated to be the 5th most common cancer in the US in 2014 and among the top 5 most common types of cancer diagnosed at LVHN in 2013.¹
- ❑ It is estimated that by the end of 2014 there will have been 76,100 patients diagnosed with melanoma and 9,710 melanoma related deaths.¹
- ❑ Diagnosing melanoma in the early stages is the key to better prognosis. The survival rates are 98% for localized melanoma, 62% for regional melanoma, and 16% for distant melanoma.¹
- ❑ The BRAF gene encodes a serine-threonine protein kinase which acts in a pathway that regulate cell proliferation and growth. When BRAF is mutated, cell growth is no longer regulated properly which leads to tumor cell proliferation, invasion, and resistance. BRAF mutation is commonly found in aggressive cancers.²
- ❑ The purpose of our study is to determine if treatment provided for skin and scalp melanoma at LVHN in 2013 was in accordance with the treatment described in the NCCN Guidelines. We also wanted to investigate if there was a positive correlation between patients with metastatic melanoma to the brain and a BRAF mutation.

Methods

- ❑ 137 melanoma cases seen at LVHN during 2013 were screened. Mucosal melanomas, cases with unknown staging, cases with no follow up, and cases with pathology not indicative of melanoma were excluded, leaving 128 cases to be reviewed.
- ❑ Age, gender, stage, treatment, presence of brain metastasis, presence of BRAF mutation, and patient mortality were determined by reviewing all patient records including radiology and pathology results done during 2013.
- ❑ The National Comprehensive Cancer Network Clinical Practice Guidelines in Oncology for Melanoma Version 4.2014 was used as a standard for comparing the treatments patients at LVHN received to the treatments outlines in the NCCN Guidelines.

Results

Staging of Skin and Scalp Melanoma Patients at LVHN in 2013

| Stage | Number of Patients |
|-------|--------------------|
| 0 | 24 |
| 1 | 62 |
| 2 | 21 |
| 3 | 9 |
| 4 | 12 |

Table 1: Staging of 128 skin and scalp melanoma patients diagnosed and treated at Lehigh Valley Health Network in 2013.

Treatment Received for Melanoma

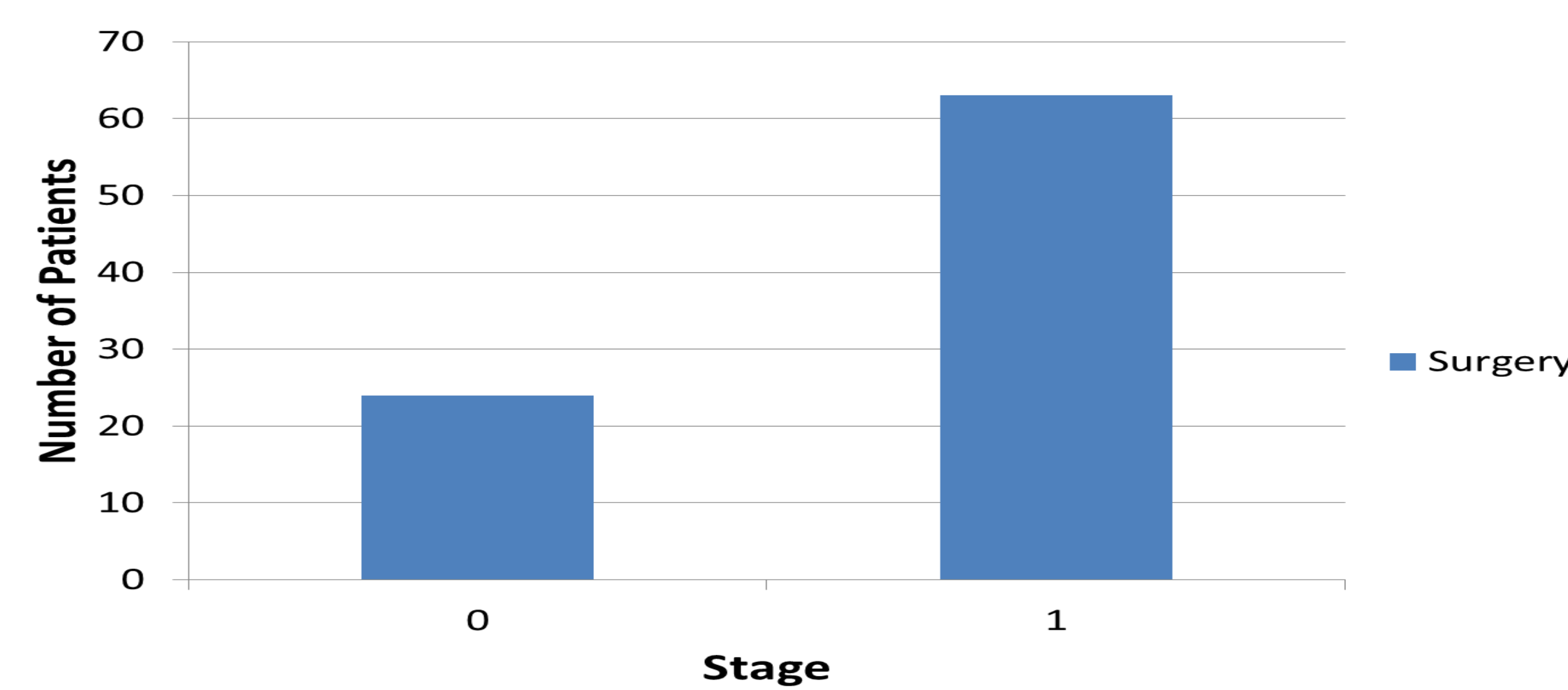


Figure 1: Treatment received for stage 0 melanoma in situ and stage 1 melanoma at Lehigh Valley Health Network in 2013. Surgery can include wide excision, reexcision, and sentinel lymph node biopsy.

Treatment Received for Melanoma

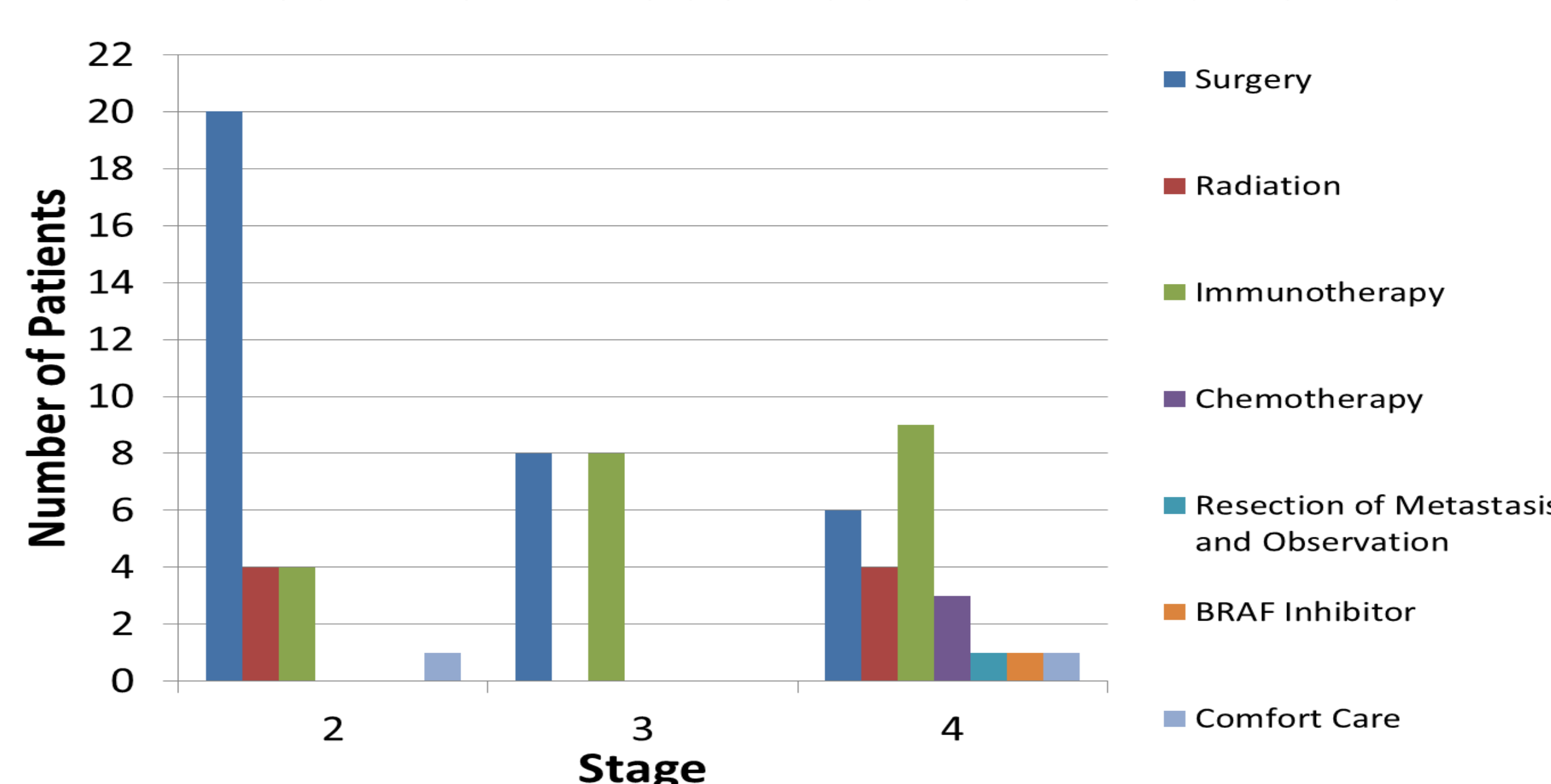


Figure 2: Treatment received for stage 2, 3, and 4 melanoma at Lehigh Valley Health Network in 2013. Surgery can include wide excision, reexcision, sentinel lymph node biopsy, or lymphadenectomy. Radiation includes gamma knife radiation and electron beam radiation. Immunotherapy includes Ipilimumab, interferon alpha (high dose and peggyated), Nivolumab, and immunotherapy combination clinical trials BMS CA209-067, E1609, and BMS CA209-064. Chemotherapy includes carboplatin, paclitaxel, and avastin. Resection of metastasis and observation involved removing the metastatic tissue and observing the patient. Comfort care included hospice and pain medications.

Stage 4 Melanoma Patients Tested for BRAF Mutation and Brain Metastasis

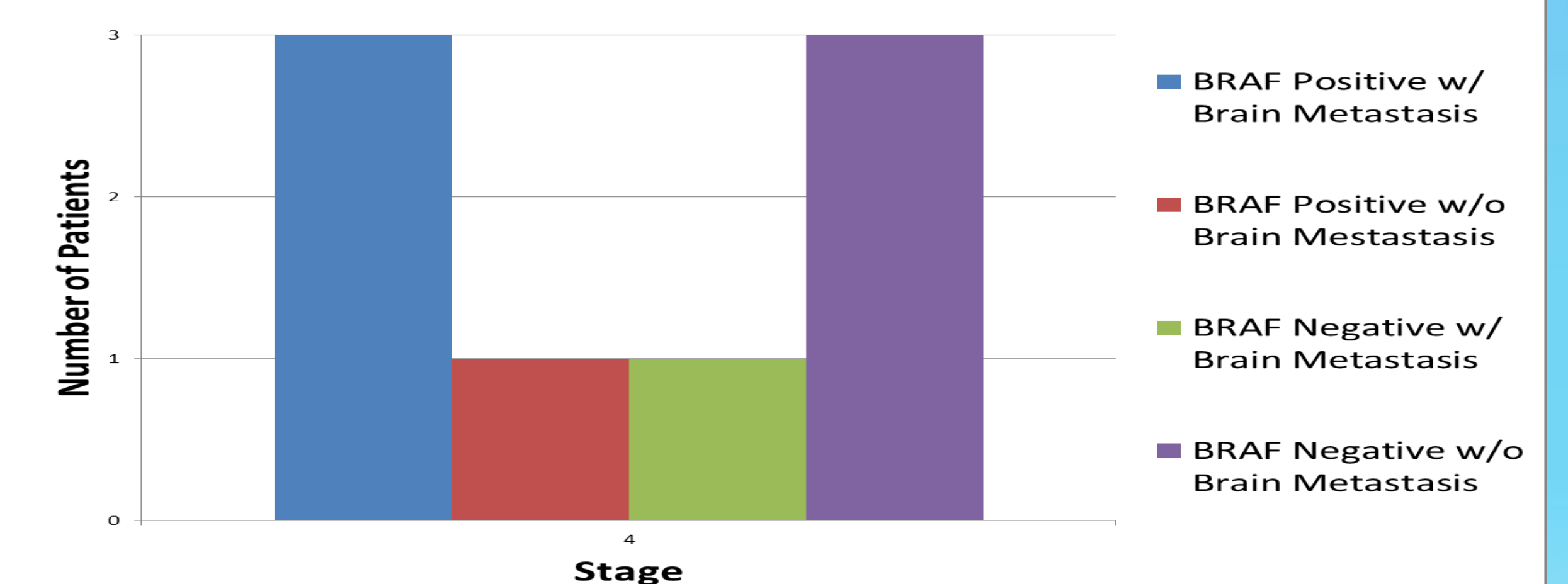


Figure 3: Stage 4 melanoma patients treated at LVHN in 2013 that were tested for BRAF mutation(V600E) and brain metastasis. Excluded from this figure is one stage 3 melanoma patient that tested positive for the BRAF mutation, 2 cases where stage 4 patients were not tested for brain metastasis or the BRAF mutation, and 3 cases where patients were negative for brain metastasis and were not tested for the BRAF mutation.

Conclusions

- ❑ The majority of patients presented with stage 1 melanoma on diagnosis.
- ❑ The majority of patients were males over age 50 at the time of diagnosis.
- ❑ 50% of stage IV patients tested for the BRAF mutation were BRAF positive.
- ❑ 75% of stage IV patients with brain metastasis that were tested for the BRAF mutation were BRAF positive.
- ❑ The average age at diagnosis for BRAF positive patients was 56 years, in comparison to 63 years for BRAF wild type patients which is consistent with the literature which states that BRAF mutation is more common in younger patients at diagnosis.³
- ❑ Treatments recommended/received for melanoma at LVHN in 2013 were in accordance with the NCCN Guidelines version 4.2014.⁴

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