



Nursing Management of Patients With Metastatic Melanoma Receiving Ipilimumab

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A 46-year-old Caucasian male named N.M. was diagnosed in March 2002 with melanoma of the trunk. The melanoma was resected and a left axillary sentinel lymph node biopsy was negative for malignant cells. Three years later, melanoma recurred to the left axillary lymph nodes, which were subsequently dissected. No adjuvant therapy was administered. In November 2007, a computed tomography (CT) scan showed multiple lesions (2–6 cm) in the abdomen wall, peritoneum, and small bowel, and a mass of 10 cm in the left axillary region. N.M. was enrolled into a phase III trial and received 850 mg/m² dacarbazine plus 10 mg/kg ipilimumab at weeks 1, 4, 7, and 10, followed by dacarbazine alone every three weeks through week 22.

Tumor assessment at week 12 showed a reduction in size of all lesions in the abdomen wall, peritoneum, and small bowel, with only one lesion remaining measurable at 15 mm. However, the mass in the left axillary region had increased more than 20% in size, with associated pain and functional limitation. N.M. was diagnosed with progressive disease by RECIST (Response Evaluation Criteria in Solid Tumors).

For reasons of pain and function, the accessible mass in the left axillary region was surgically removed. Histologic examination of the mass confirmed melanoma; however, massive infiltration of lymphocytes also occurred, which was suggestive of an antitumor immune response. Postoperative CT scan demonstrated no change to other lesions, and N.M. continued with maintenance therapy, receiving 10 mg/kg ipilimumab every 12 weeks. N.M. remained progression free until January 2009 when cerebral metastases were observed.

Before the third induction dose of ipilimumab, N.M. reported grade 2 macu-

lopapular rash of the trunk, hands, and feet with associated grade 1 pruritus. A topical 0.1% hydrocortisone cream was prescribed, and the patient was advised about skin care, using moisturizer, and avoiding sun exposure. Following an increase in pruritus from grade 1 to grade 2, N.M. was prescribed an antihistamine (diphenhydramine) to be used on an as-needed basis. One week later, the rash had lessened and the pruritus had resolved.

Prior to the fourth dose of ipilimumab, N.M. reported an increased number of bowel movements and was prescribed loperamide. A bland diet with increased oral hydration was recommended and N.M. was advised to attend the clinic or emergency room in the case of a painful or distended abdomen or the presence of blood in his stools. One week later, the diarrhea had stopped and clinical examination revealed normal bowel sounds and serum electrolytes. In addition, N.M.'s skin rash had almost completely resolved. The fourth ipilimumab dose was delayed by one week to monitor for any additional gastrointestinal symptoms.

Throughout treatment, vigilant monitoring by N.M. and his healthcare providers ensured that diarrhea and rash associated with ipilimumab treatment were identified quickly and managed appropriately. In this case, advice given to the patient with regard to monitoring ongoing adverse reactions minimized disruption to the ipilimumab treatment schedule.

The incidence of malignant melanoma, the most serious type of skin cancer, has been increasing steadily. An estimated 76,250 cases of melanoma were reported in the United States in 2012 compared to 62,480 in 2008 (Jemal et al., 2008; Siegel, Naishadham, & Jemal, 2012). A similar trend has been noted in

Europe, where an estimated 50,000 cases of melanoma were diagnosed in 2004, rising to 84,000 cases in 2008 (Boyle & Ferlay, 2005; Ferlay, Parkin, & Steliarova-Foucher, 2010). Patients diagnosed with metastatic melanoma are faced with poor survival rates and limited treatment options. The latest versions of clinical practice guidelines for melanoma from the National Comprehensive Cancer Network ([NCCN], 2013) and the European Society for Medical Oncology clinical practice guidelines (Dummer, Hauschild, Guggenheim, Keilholz, & Pentheroudakis, 2012) recommend treatment with ipilimumab, a novel immunotherapy, for all patients.

Mechanism of Action

Ipilimumab is a human monoclonal antibody that blocks cytotoxic T-lymphocyte antigen-4 (CTLA-4) (Fong & Small, 2008). CTLA-4 normally acts to block the activation of cytotoxic CD8 T cells. With ipilimumab, blockade of the inhibitory signal from CTLA-4 potentiates T-cell activation, proliferation, and infiltration into tumors, which may lead to tumor cell death (Fong & Small, 2008; Melero, Hervas-Stubbs, Glennie, Pardoll, & Chen, 2007; O'Day, Hamid, & Urba, 2007; Robert & Ghiringhelli, 2009).

Dosing and Administration

Ipilimumab is indicated in the United States and Europe (pretreated patients only) for the treatment of advanced (unresectable or metastatic) melanoma in adults (Bristol-Myers Squibb, 2011). The recommended induction regimen of ipilimumab is 3 mg/kg administered via IV for a 90-minute period, every three weeks, for a total of four doses. Patients should receive all four doses as