Treatment Patterns and Outcomes for Patients with Adrenocortical Carcinoma Associated with Hospital Case Volume in the United States

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TO THE EDITORS:

We read with interest the article by Gratian et al. entitled ‘Treatment Patterns and Outcomes for Patients with Adrenocortical Carcinoma Associated with Hospital Case Volume in the United States’, published in *Annals of Surgical Oncology*.¹ This study analyzed data from the National Cancer Data Base (NCDB) Participant Use File (PUF)² and is an important contribution to the literature for this rare cancer. However, we would like to clarify some statements made in the paper in regard to missing data.

The NCDB adds new registry data items as needed, therefore any analysis of missing data needs to be limited to the diagnosis years in which the data item was required to be submitted. In addition, the American Joint Committee on Cancer (AJCC) adds new staging rules for cancer sites as necessary, as is the case for adrenal cortical carcinoma (ACC), which has only had AJCC staging criteria since 2010.³ The PUF data analyzed by Gratian et al. include the diagnosis years 1998–2011. The 84% missing AJCC stage statistic cited in the article is based on all of these diagnosis years, not the 2 years for which AJCC staging is available. Using the selection criteria cited in the article, the actual percentage missing analytic stage (clinical or pathologic) for the 2010–2011 diagnosis years is 8%, and the percentage missing clinical stage in 2010–2011 is 19%.

Other variables that were not reported throughout the 1998–2011 time period include surgical approach (reported 2010–2011), Charlson–Deyo comorbidity score (reported

2003–2011), and distant metastasis (reported 2004–2011). The Charlson–Deyo score has no missing data for the years collected, not the 30% missing cited in Table 1. Each patient is assumed to have no comorbidities unless any are submitted for that patient, hence the Charlson–Deyo Score has no missing values. For the diagnosis years in which the data item was reported, ‘surgical approach’ has no missing data in the ACC data (compared with 83% cited) and ‘distant metastasis’ has 4% missing data (compared with 84% cited). Nevertheless, missing data are always a concern of the NCDB and procedures are in place to improve data quality and collection.

We appreciate the opportunity to clarify these issues, particularly as the number of PUF users and publications continues to increase; PUF researchers need to be aware of these missing data issues.

REFERENCES

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