

ABSTRACT

Aggressiveness of care at End of Life (EOL) has recently emerged as an important indicator of quality of care in most oncology centers. The definition of indicators for aggressiveness of care for oncology patients has been clearly stated through the work of Earle et al in 2003. It includes one or more of the following: receiving any chemotherapy regimen in the last 14 days of life, receiving a new chemotherapy regimen in the last 30 days of life, more than one Emergency Department (ED) visit within 30 days of death, more than one hospital admission or spending more than 14 days in hospital in the last month of life, an Intensive Care Unit (ICU) admission in the last month of life or death in an acute care hospital. The accepted International overall percentage of aggressive care at EOL for patients with solid tumors lies between 20% - 25%. However, this percentage is not always met and some centers report much higher percentage due to variable factors. Those percentages can reach up to 50% in countries such as Korea <sup>(19)</sup> and 70% in Qatar.

METHODS

A retrospective chart review was conducted to measure for markers of Aggressive EOL cancer care, defined as occurrence of one or more of the following indicators: receiving any chemotherapy regimen in the last 14 days of life, receiving a new chemotherapy regimen in the last 30 days of life, more than one Emergency Department (ED) visit within 30 days before death, ICU admission in the last 30 days of life, more than one hospital admission or spending more than 14 days in the hospital in the last month of life, or death in an acute care hospital.

RESULTS

A total of 97 patients with hematologic malignancies constituted the cohort of this study. This constituted 12% of the total number of cases with any cancer diagnosis who were reported dead over the 5 years period from 2009-2013. Patients with hematologic malignancies had significantly more ER visits in the last month of life compared to those with solid tumors (68% versus 56% with a *p* value <0.001). They also had significantly higher ICU admissions compared to solid tumors (57% versus 29% *p*<0.001). They were also more likely to receive chemotherapy in the last 14 days of life compared to patients with solid tumors (11% versus 6%, *p*=0.033). Patients with hematologic malignancies were also less likely to be referred to palliative care compared to those with solid tumors (9% versus 31%). This difference was statistically significant with a *p* value <0.001. The composite measure of aggressiveness (0-5 measures maximum) also decreased from 1.74 in 2009 to 0.67 in 2013. However this difference did not reach statistical significance (*p*=0.09).

Table 1: Quality of End-of-Life Care Indicators (N=784)

Characteristics	Solid Tumors N= 687	Hematologic Malignancies N=97	p-value
Within last 30 days of life			
Any ER visit	384 (55.9)	66 (68.0)	0.024*
≥2 ER visits	114 (16.6)	17 (17.5)	0.818
Any hospital admission	542 (78.9)	73 (75.3)	0.415
≥2 hospital admissions	228 (33.2)	28 (28.9)	0.396
>14 days of hospitalization	189 (27.5)	20 (20.6)	0.151
ICU admission	196 (28.5)	55 (56.7)	<0.001*
Chemotherapy use	39 (5.7)	11 (11.3)	0.033*
Starting a New Chemotherapy	26 (3.8)	5 (5.2)	0.517
Palliative Care Unit Admission	216 (31.4)	9 (9.3)	<0.001*
Hospital Death	619 (90.1)	86 (88.7)	0.659

\* p-value<0.05

Table 2: Trends in Measures of the Care Administered Near the End of Life during the 5-Year Study Period among the Patients with Hematologic Malignancies

Measure of Care	Period of Study					p
	2009	2010	2011	2012	2013	
Average No of hospital admissions in the last month of life	1.22	0.92	1.15	1.10	1.17	0.718
Average No. of days in the hospital at last encounter	9.11	7.5	5.05	7.00	7.5	0.353
Average No. of ICU admissions in the last month of life	0.70	0.54	0.70	0.60	0.33	0.267
Average No. of days spent in the ICU in the last month of life	2.04	2.96	2.40	3.80	0.33	0.905
Average No. of ED visits in the last month of life	0.85	1.25	1.30	0.60	0	0.032*

\* p<0.05

CONCLUSIONS

End-of-life is considered nowadays as an important indicator of good quality of care that is well recognized by international oncology associations such as the American Society of Clinical Oncology (ASCO). the present study clearly demonstrates that patients with hematologic malignancies are less likely to be referred to palliative care compared to patients with solid tumors over the same period of time. They are also having more ER visits as well as more ICU admissions in the last month of their life. An earlier engagement with palliative care is warranted for patients with hematologic malignancies in our center in order to improve the tolerance of the patients to salvage therapies as well as the quality of their care near end of life.

REFERENCES

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