



CHOLINESTERASE AS A PROGNOSTIC INDEX IN CANCER PALLIATIVE CARE PATIENTS

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INTRODUCTION: Cholinesterase (PCHE) is actually considered a prognostic index validated in geriatric patients. There is no scientific evidence about the terminally ill cancer patients.

AIMS: Verify the correlation between values of cholinesterase and prognosis in palliative care oncological patients.

METHODS: We conducted an observational study that included 40 patients, 17 males and 23 females, mean age 69.2 ± 13 (37-87) with solid tumors of different type treated in a setting of palliative care. Metastatic disease was diagnosed in 85% of patients (tab. 1).

Sample		Mean Age	Metastatic Disease	Cholinesterase
Male	17 (42.5%)	69±12	15 (88.2%)	3976±2589
Female	23 (57.5%)	69.2±14	19 (73.9%)	5181±2278
Total	40	69.2±13	34 (85%)	4669±2413

In these patients, we measured the values of cholinesterase and its correlation with PAP score, already validated prognostic index, ESAS score and survival to three weeks (fig.1,2).

RESULTS: We observed an average value of cholinesterase of 4669 ± 2413 IU / mL (182-10361), less than the threshold in 45% of cases. Patients with high PAP score presented a low value of PCHE (r = 0.75, p = 0.000), showing a significant correlation for all items, with higher values for the items anorexia (r = 0.71, p <0.001), Karnofsky Index (r = 0.63, p <0.001) and clinical prediction of survival (r = 0.68, p <0.001). We found also a correlation between values of PCHE and ESAS, both in the total score (r = 0.76, p <0.001) and the single items.

PAP Score		r	p
Total	Total	0.75	<0.001
	Dyspnea	0.47	0.002
	Anorexia	0.71	<0.001
	Karnofsky PS	0.63	<0.001
	Total WBC	0.28	n.s.
	Lymphocyte (%)	0.41	n.s.
	clinical prediction of survival (week)	0.69	<0.001

ESAS		r	p
Total score	Total score	0.8	<0.001
	Pain	0.6	<0.001
	Fatigue	0.54	<0.001
	Nausea	0.55	<0.001
	Depression	0.64	<0.001
	Anxiety	0.68	<0.001
	Drowsiness	0.56	<0.001
	Appetite	0.75	<0.001
	Well being	0.73	<0.001
	Shortness of breath	0.5	0.001
Other problem	0.66	<0.001	

After three weeks, 11 patients, whose average PCHE values were below standard, have died; 29 patients showed average PCHE values within the normal range (3030 ± 1568 vs. 5291 ± 2404, p = 0.05)

	Low PCHE	Normal PCHE	total	p
Patients alive at three weeks	7	22	29	0.05
Patients died at three weeks	11	0	11	
total	18	22	40	

CONCLUSIONS: In our sample the PCHE proved to be a good prognostic index. Further studies on samples of many more patients will be required to include PCHE in the already validated scales for the assessment of prognosis in palliative cancer patients.

The Palliative Prognostic Score (PaP)		
Criterion	Assessment	Partial score
Dyspnea	No Yes	1 0
Anorexia	No Yes	0 1.5
Karnofsky Performance Scale	> 30 10 - 20	0 2.5
Clinical prediction of survival (weeks)	> 12	0
	11 - 12	2
	7 - 10	2.5
	3 - 6	4.5
Total WBC (x10 ⁹ /L)	1 - 2	0.5
	8.6 - 11	0.5
	> 11	1.5
Lymphocyte percentage	20 - 40 %	0
	12 - 19.9 %	1
	< 12 %	2.5
RISK GROUP	30 DAY SURVIVAL	TOTAL SCORE
A	> 70 %	0 - 5.5
B	30 - 70 %	5.6 - 11
C	< 30 %	11.1 - 17.5

ESAS (EORTC Symptom Assessment Scale)

ESAS (EORTC Symptom Assessment Scale)

Please circle the number that best describes:

No pain 0 1 2 3 4 5 6 7 8 9 10 Worst possible pain

Not at all 0 1 2 3 4 5 6 7 8 9 10 Worst possible tiredness

Not at all 0 1 2 3 4 5 6 7 8 9 10 Worst possible nausea

Not at all 0 1 2 3 4 5 6 7 8 9 10 Worst possible depression

Not at all 0 1 2 3 4 5 6 7 8 9 10 Worst possible anxiety

Not at all 0 1 2 3 4 5 6 7 8 9 10 Worst possible anorexia

Not at all 0 1 2 3 4 5 6 7 8 9 10 Worst possible appetite

Not at all 0 1 2 3 4 5 6 7 8 9 10 Worst possible feeling of well-being

Not at all 0 1 2 3 4 5 6 7 8 9 10 Worst possible shortness of breath

Other problem 0 1 2 3 4 5 6 7 8 9 10

Patient's Name: _____ Date: _____ Time: _____

Completed by (print name):
 Patient
 Caregiver
 Clinician/attendant