



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		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		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)	3 - 4	6
	1 - 2	8.5
	< 8.5	0
Lymphocyte percentage	8.6 - 11 > 11	0.5 1.5
	20 - 40 % 12 - 19.9 % < 12 %	0 1 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 (Eisenberg Symptom Assessment System)

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Please circle the number that best describes:

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

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

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

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

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

Not dizzy 0 1 2 3 4 5 6 7 8 9 10 Worst possible dizziness

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

Best feeling of well-being 0 1 2 3 4 5 6 7 8 9 10 Worst possible feeling of well-being

No weakness of health 0 1 2 3 4 5 6 7 8 9 10 Worst possible weakness of health

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

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

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