LOCAL ADVANCED GASTRIC CANCER: OPTIMIZATION OF MANAGEMENT

P-098

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OBJECTIVE: Search of best treatment plan for local advanced gastric cancer (GC) patients (GCP) (T4bN0-2M0) was realized.

METHODS: We analyzed data of 144 consecutive GCP (age=55.7±9.5 years; tumor size=8±3 cm) radically operated (R0) and monitored in 1975-2015 (m=95, f=49; total gastrectomy=41, distal gastrectomy=70, proximal gastrectomy=33, combined gastrectomy with resection of 1-6 adjacent organs (pancreas, liver, diaphragm, colon transversum, splenectomy, small intestine, kidney, adrenal gland, etc.)=144; T4b=144; M1=0; N0=47, N1=10, N2=87; G1=37, G2=25, G3=82; only surgery-S=97, adjuvant treatment-AT=47 (chemoimmunotherapy: 5-FU + thymalin/taktivin). Survival curves were estimated by the Kaplan-Meier method. Differences in curves between groups of GCP were evaluated using a log-rank test. Cox modeling, clustering, SEPATH, Monte Carlo, bootstrap simulation and neural networks computing were used to determine any significant dependence.

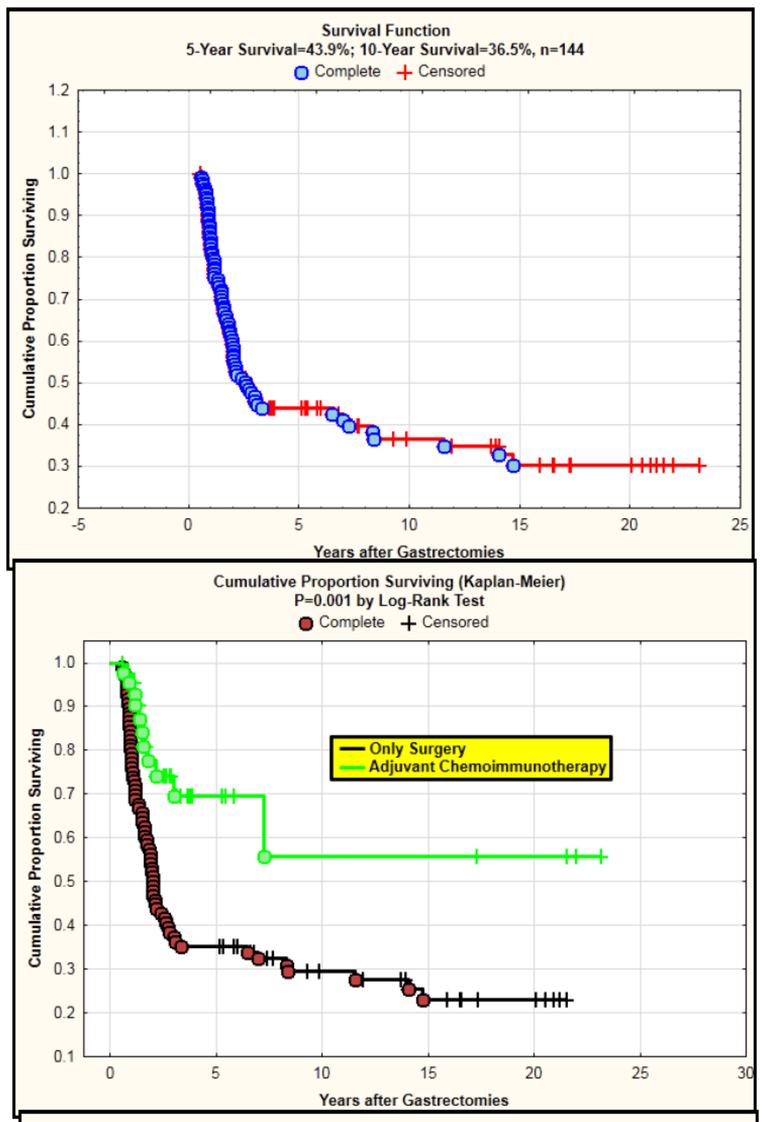
RESULTS: For total of 144 GCP overall life span (LS) was 1685.3±2100.3 days, (median=728 days) and cumulative 5-year survival (5YS) reached 43.9%, 10 years – 36.5%, 20 years – 30.4%. 40 GCP lived more than 5 years without GC progressing. 72 GCP died because of GC during the first 5 years after surgery. 5YS was superior significantly after AT (69.3%) compared with S (35.1%) (P=0.001 by log-rank test). Cox modeling displayed that 5YS significantly depended on: phase transition (PT) N0-N12 in term of synergetics, tumor growth, histology, localization, age, AT, ESS, color index, blood chlorides, hemorrhage time (P=0.000-0.049). Neural networks computing, genetic algorithm selection and bootstrap simulation revealed relationships between 5YS and PT N0-N12 (rank=1), color index (rank=2), eosinophils (3), ESS (4), age (5), thrombocytes/cancer cells – CC (6), eosinophils/CC (7), healthy cells/CC (8), AT (9). Correct prediction of 5YS was 100% by neural networks computing.

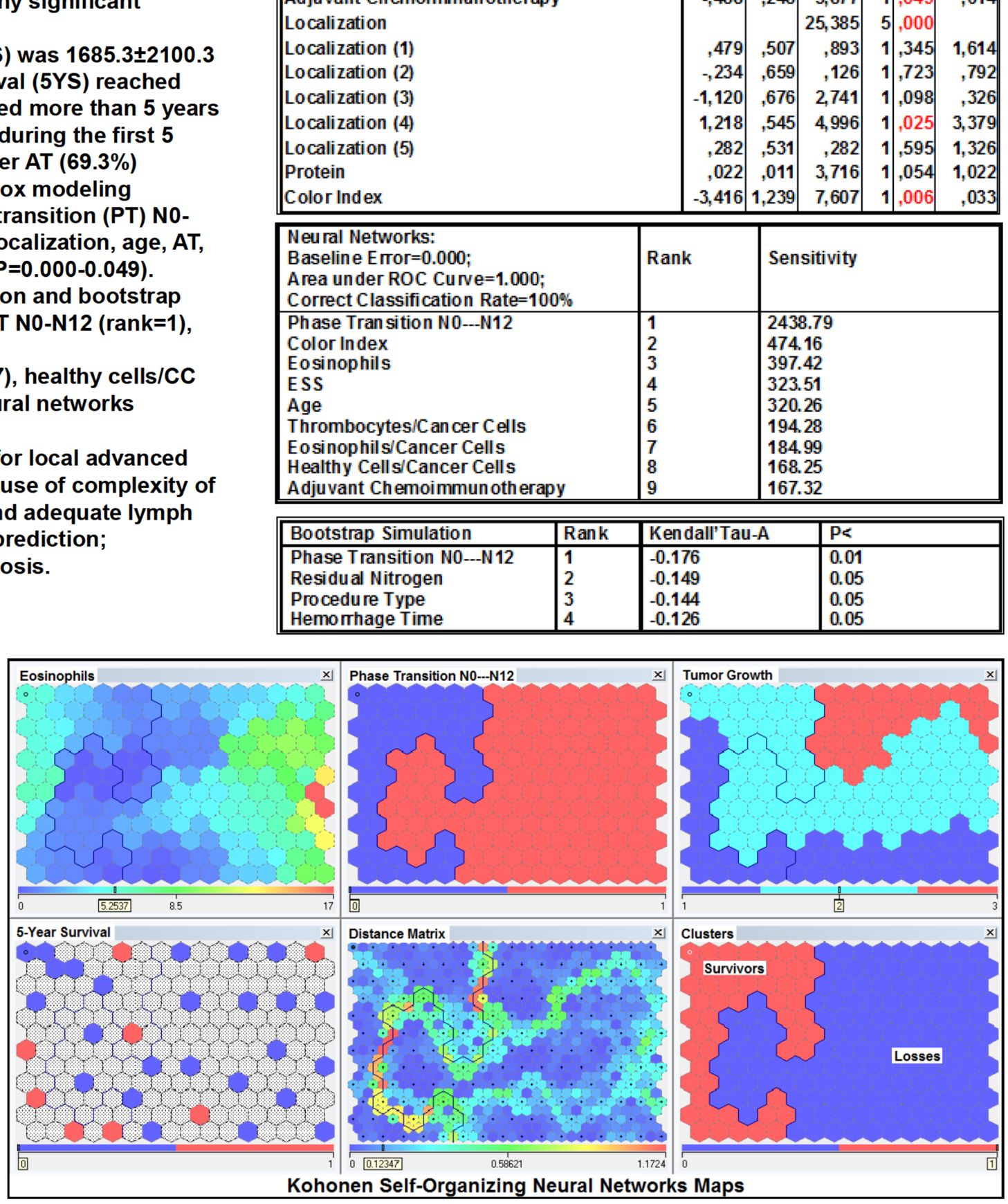
CONCLUSIONS: Optimal management strategies for local advanced GCP are: 1) availability of experienced surgeons because of complexity of radical procedures; 2) aggressive en block surgery and adequate lymph node dissection for completeness; 3) high-precision prediction; 4) adjuvant treatment for GCP with unfavorable prognosis.

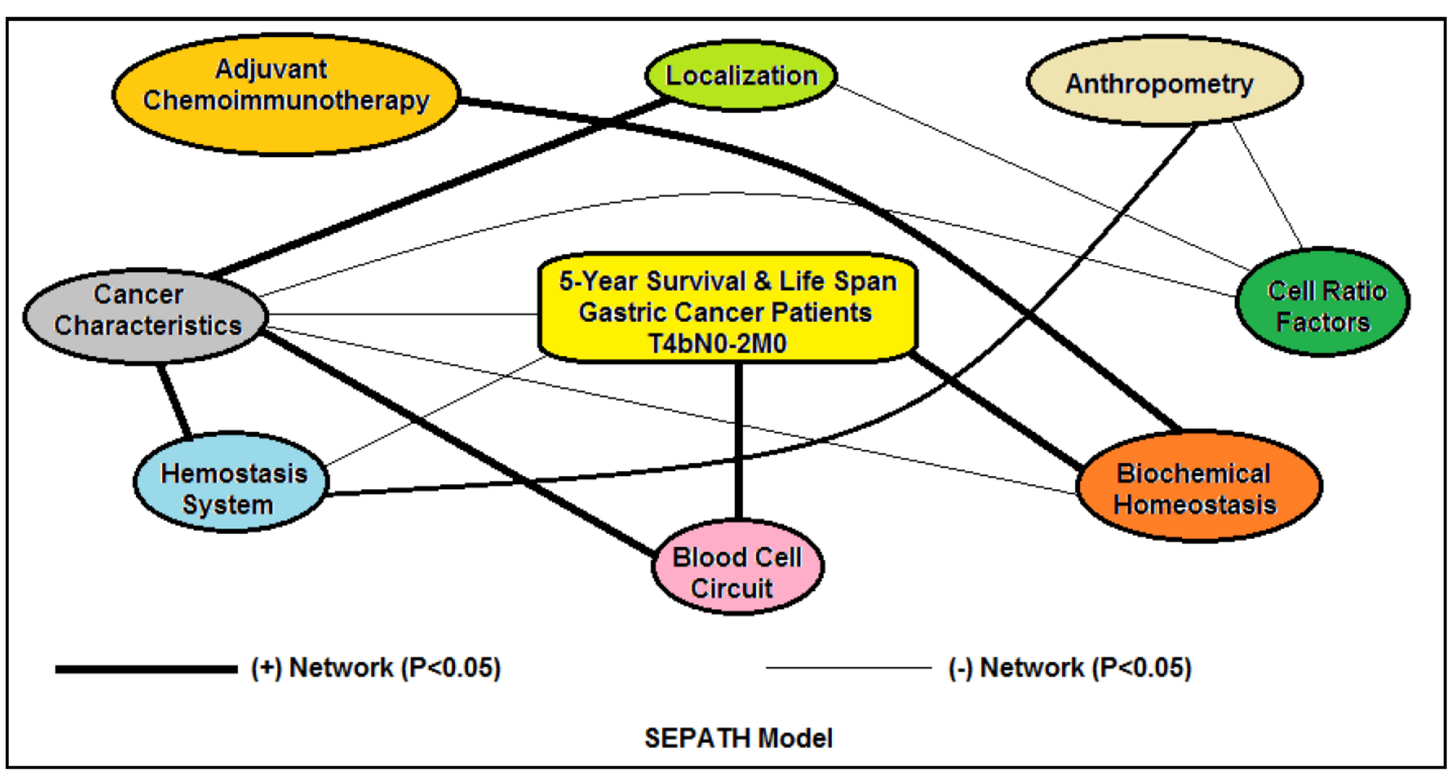
Cox Regression: Chi2=96.680; df=18; P=0.000; Variables in the Equation:	B	SE	Wald	df	P	Exp(B)
ESS	-,029	,008	13,923	1	,000	,972
Hemorrhage time	,017	,007	5,884	1	,015	1,017
Blood Chlorides	-,040	,015	7,424	1	,006	,961
Prothrombin Index	,018	,008	5,123	1	,024	1,018
N	-,662	,230	8,265	1	,004	,516
Age	,020	,010	4,114	1	,043	1,020
Histology			9,508	2	,009	
Histology(1)	1,121	,536	4,371	1	,037	3,069
Histology(2)	1,452	,510	8,103	1	,004	4,273
Tumor Growth			11,439	2	,003	
Tumor Growth (1)	,204	,407	,250	1	,617	1,226
Tumor Growth (2)	-,662	,403	2,693	1	,101	,516
Adjuvant Chemoimmunotherapy	-,488	,248	3,877	1	,049	,614
Localization			25,385	5	,000	
Localization (1)	,479	,507	,893	1	,345	1,614
Localization (2)	-,234	,659	,126	1	,723	,792
Localization (3)	-1,120	,676	2,741	1	,098	,326
Localization (4)	1,218	,545	4,996	1	,025	3,379
Localization (5)	,282	,531	,282	1	,595	1,326
Protein	,022	,011	3,716	1	,054	1,022
Color Index	-3,416	1,239	7,607	1	,006	,033

Neural Networks: Baseline Error=0.000; Area under ROC Curve=1.000; Correct Classification Rate=100%	Rank	Sensitivity
Phase Transition N0---N12	1	2438.79
Color Index	2	474.16
Eosinophils	3	397.42
ESS	4	323.51
Age	5	320.26
Thrombocytes/Cancer Cells	6	194.28
Eosinophils/Cancer Cells	7	184.99
Healthy Cells/Cancer Cells	8	168.25
Adjuvant Chemoimmunotherapy	9	167.32

Bootstrap Simulation	Rank	Kendall'Tau-A	P<
Phase Transition N0---N12	1	-0.176	0.01
Residual Nitrogen	2	-0.149	0.05
Procedure Type	3	-0.144	0.05
Hemorrhage Time	4	-0.126	0.05







DOI: 10.3252/pso.eu.17wcgc.2015