35 Evaluation of angiogenesis in renal cell carcinoma

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Introduction & Objectives: Solid tumor growth and prediction as renal cell carcinoma (RCC) is connected with angiogenesis. The measure of tumor angiogenesis is microvessel counts or microvessel density (MVD). We have evaluated in this study the involvement of angiogenesis and prognostic factors in the pathogenesis of renal cell carcinoma (RCC).

Materials & Methods: Formalin-fixed and paraffin-embedded tissue blocks from 54 patients with RCC were studied. The situations of tumor angiogenesis were evaluated by assessing microvessel density (MVD) through CD34 immunostaining. The expression were correlated with the clinical and pathological features of those specimens.

Results: We had investigate with standard multiple regression analysis the influence of independent predictors on outcome, dependent variable CD34 in the group of kidney cancer patients (N=54). The model is presented by the backward method in 10 steps. In the first step the model with predictive factors (gender, age ...) explains 59% of variance expression CD34, with significance statistic p=0.002. The predictors with a minimum impact of up to 4 steps, when the model explains 55% of the CD34 with statistic significance of p=0.0001 (Table 1). From the other variables in the tenth step correlation was found between the number of positive blood cells CD34 vascular and necrosis (beta = 0.539 p = 0.0001). The impact is negative, the respondents with a higher percentage necrosis have a smaller expression of CD34. There was a positive correlation between the number of CD34 positive blood vessels and pT/tumor stages (p=0.045), the effect is positive, the higher pT stage increases the number of positive blood vessels CD34 MVD.

Table1.

		Unstandardized Coefficients		Standardized Coefficients		
Model	N=54	B	Std. Error	Beta	t	p
1	(Constant)	125,203	44,947		2,786	,008
	Gender	10,478	12,338	,098	,849	,401
	Age	-,276	,580	-,060	-,476	,637
	Egzo/Edno proliferation	-2,230	13,669	-,019	-,163	,871

	Size	-,343	,298	-,188	-1,150	,257
	Metastasis (M)	1,442	28,259	,012	,051	,960
	Necrosis (%)	-202,553	58,627	-,478	-3,455	,001
	LVI	1,988	14,298	,019	,139	,890
	pT	15,244	9,286	,293	1,642	,109
	Nodus (N)	-13,842	23,605	-,135	-,586	,561
	Metastasis (M)	2,579	19,875	,022	,130	,897
	Gradus	7,200	7,590	,130	,949	,349
	Resection margins	-,955	26,337	-,005	-,036	,971
10	(Constant)	127,488	16,907		7,541	,000
	Necrosis %	-228,422	45,410	-,539	-5,030	,0001
	pT	11,656	5,657	,224	2,060	,045

Conclusions: The number of CD34 microvessel density positive blood cores (CD34 MVD) are in statistically significant correlation with the degree of necrosis (p=0.0001) and pT stage of RCC (p=0.045). The degree of CD34 MVD angiogenesis may be closely related to the tumor progression of RCC.