IF : 3.62 | IC Value 80.26

Volume-5, Issue-12, December - 2016 • ISSN No 2277 - 8160

Original Research Paper

Urology

Effectiveness Of Prognostic Factors Influencing The Disease Free Survival In Non Metastatic Renal Cell Carcinoma.

Dr.Ram Reddy Ch	Professor & H.O.D, Department of Urology, NIMS-Hyd.
Dr.Rahul Devraj	Associate Professor, Department of Urology, NIMS-Hyd.
Dr.Deepak cheni	Senior Resident, Department of Urology, NIMS-Hyd.
Dr.Sabarinath B	Senior Resident, Department of Urology, NIMS-Hyd.
Dr.Vidyasagar S	Associate Professor, Department of Urology, NIMS-Hyd.
Dr.Ramchandraiah G	Assistant Professor, Department of Urology, NIMS-Hyd.

ABSTRACT

Aim: *To analyze the clinical and pathological variables that are recognized as prognostic factors for RCC.*

Materials and methods: *This is a Retrospective study of patients who underwent radical nephrectomy during the period from Aug 2015 to Aug 2016 at Nizam's Institute of Medical sciences-Hyderabad. A Total of 52 patients who are effected with renal cell carcinoma were included excluding those patients who are effected with RCC under 18yrs, with metastatic RCC and bilateral RCC. There performance status was assessed by eastern cooperative oncology group performance preoperatively.*

Results: *Total 52 patients are included in the study, of these majority of the patients are between 40-60yrs of age(60.7%).46.1% of patients has ECOG performance score 0, SSIGN score is of 3-5 in 67.3%, 55.7% of patients are at intermediate risk according to UCLA risk group. One year disease free survival was noted in 82.6% of patients.*

Conclusion: *Available prognostic models like UISS and SSIGN score designs proved to be useful models for assessing prognosis of non metastatic RCC at one year of follow up.*

KEYWORDS :

Introduction:

RCC is a malignancy with an adverse prognosis for the majority of patients[1,2]. Despite increasing number of patients have incidentally detected RCC , around 25-30% of patients with newly diagnosed disease already have metastasis, 30-40% will progress with distant metastasis or local recurrence[3]. Therefore factors predicting the course of the disease are needed to characterize the malignancy.

Materials and methods:

Retrospective study of patients who underwent radical nephrectomy in our institute during the period from august 2015 to aug 2016.

study design: observational clinical study

inclusion criteria: patients who underwent radical nephrectomy for RCC above 18yrs of age

exclusion criteria: patients with RCC under 18yrs, metastatic RCC, bilateral RCC. performance status was assessed by eastern cooperative oncology group performance preoperatively.

Radical nephrectomy was performed enbloc, removing kidney along with perinephric fat and gerota's fascia. Ipsilateral adrenalectomy was done for upper pole tumor involving adrenal or CT scan evidence of adrenal involvement. Lymphnodes were dissected in case if enlarged. In patients with thrombus, procedure was done along with removal of thrombus. Tumor size measured as the maximum diameter determined on gross section of specimen. Histopathological nuclear grade was determined primarily by pathology reports, Fuhrman's grading system and histologically typed. Stage is defined according to AJCC cancer staging system 2010. Patients are followed up for one year periodically by history, physical examination, RFT, LFT, chest X ray and CECT KUB. Frequency of follow up depends on tumor stage. Factors determined are age, sex, ECOG status, mode of presentation, TNM staging, type of histology, Furhman's grading and presence of necrosis. The results are incorporated to prognostic models of RCC like SSIGN and UCLA systems to predict the accuracy of these models in accessing the prognosis of RCC.

Results:

Total 52 patients are included in the study, of these majority of the patients are between 40-60yrs of age(60.7%), symptomatic at presentation (82.6%), 53.8% are in T2 stage, 90.3% has no lymphnode enlargement, 65.3% has nuclear grade 2 on HPE section, 73% of the patients has clear cell histology, ESR is elevated in 53.8% of patients, necrosis is present in 73.1% of patients, 46.1% of patients has ECOG performance score 0, SSIGN score is of 3-5 in 67.3%, 55.7% of patients are at intermediate risk according to UCLA risk group. One year disease free survival was noted in 82.6% of patients.

All the data in shown in the table1&2.

Discussion:

A total of 52 patients with non metastatic RCC who underwent radical nephrectomy were followed up to 1 year. Majority of patients are aged between 40-60 years denoting younger age of presentation of RCC in contrast to most common presentation of 6th and 7th decades of life.[1,2] Majority of patients presented with symptoms(81.6%)in contrast to more than 50% of RCC now detected incidentally(pant U.K. et al 2000).[3] This denotes delayed presentation of patients for treatment in our study. Majority Of patients had T2 stage disease and 4 patients had IVC thrombus below diaphragm with no vessel wall invasion. T stage proved to be moderately satisfactory significant prognostic predictive for disease free

survival.[4,5,6] Lymphnode positivity noted in 9.6% of patients and proved to be significant and prognostic predictive for disease free survival at 1 year. Majority of patients had Furhman's nuclear grade 2 (65.3%) and no patient had grade4 which did not prove significant. Prognostic predictive for disease free survival at one year follow up in contrast to Furhman's grade as significant and independent prognostic parameter for RCC. In other studies by Cheville et al.[7] Majority of patients had clear cell type histology at one year follow up. Chromophobe had 100% disease free survival. Papillary 57.1% and sarcomatoid type 33.8% in contrast to other studies present study suggest that clear cell RCC had good prognosis on average compared with papillary. Majority of patients had raised ESR of above 28mm and it did not prove significant prognostic predictor. Presence of necrosis note in 26.9% and prove to be a strongly significant prognostic predictor of disease free survival similar to Lam et al.[8] Majority of patients had ECOG status of 0(46.1%) prove to be a strongly significant prognostic factor for disease free survival at one year follow up similar to the study of zisman et al 2001.[9] Majority of patients had tumor stage 2(51.9%) proved to be a strongly significant prognostic predictor for disease free survival similar to studies where pathological stage has proved to be the single most important prognostic factor for RCC(Leibovich et al2005[9]). Majority of patients had SSIGN score of 3-5 (67.5%)which proved to be a strongly significant prognostic predictor for disease free survival similar to Ficarra et al[10] 2006. Most of the patients had intermediate UCLA risk group(55.7%) and risk stratification proved to be strongly significant prognostic predictor for disease free survival at one year similar to Zisman et al 2002[11], Patard et al 2004[12]. Main drawback of the study is small size of the cohort and short follow up period, multivariate analysis could not be drawn from the study as the sample size was small making such analyses difficult to interpret.

Conclusion:

Our follow up guide lines after radical nephrectomy based on an integrated stage specific tumor protocol showed to be useful to predict recurrence and survival in patients in non metastatic RCC. Among clinical related age and mode of presentation has no independent prognostic information where as performance status proved to be significant prognostic factor. Among serum marker ESR has no prognostic value. Among related prognostic factor RCC subtypes and nuclear grade had no prognostic value but tumor size, nodal positivity, necrosis and staging had independent prognostic value. Available prognostic models like UISS and SSIGN score designs proved to be useful models for assessing prognosis of non metastatic RCC at one year of follow up.

TABLE 1:

Variables			P value
	No (n=9)	Yes (n=43)	
Age in years			
<50	4(44.4%)	18(41.8%)	1.000
>50	5(55.5%)	25(58.1%)	
Presentation			
Incidental	0(0%)	9(20.9%)	0.553
Symptamatic	9(100%)	34(79.1%)	
T stage			
T_1	0(0%)	5(11.6%)	0.025*
T_2	1(11.1%)	27(62.7%)	
T_3	4(44.4)	10(23.2%)	
T_4	4(44.4%)	1(2.3%)	
N stage			
N_o	6(66.7%)	41(95.4%)	0.094+
N_1	3(33.3%)	2(4.6%)	
Nuclear			
Grade 1	0(0%)	4(9.3%)	0.156
Grade 2	2(22.2%)	32(74.4%)	
Grade 3	7(77.7%)	7(16.2%)	
ESR			
<28	2(22.2%)	22(51.1%)	0.175
>28	7(77.7%)	21(48.8%)	

TABLE 2:

Variables	Disease free survival		
	no	yes	
UCLA risk			
High risk	9(100%)	10(23.2%)	0.001**
Intermediate	0(0%)	29(67.4%)	
Low risk	0(0%)	4(9.3%)	
SSIGN score			
0	0 (0%)	3 (6.9%)	< 0.001**
1-2	0 (0%)	2(4.6%)	
3-5	0 (0%)	35(81.3%)	
6-8	7(77.7%)	3(6.9%)	
9-10	2(22.2%)	0 (0%)	
Histology			
Chromophobe	0(0%)	4(9.3%)	0.158
Clear cell	4(44.4%)	34(79.0%)	
Papillary	3(33.3%)	4(9.3%)	
Sarcomatoid	2(22.2%)	1(2.3%)	
Necrosis			
No	0(0%)	38(88.3%)	<0.001**
Yes	9(100%)	5(11.6%)	
ECOG performance			
0	0(0%)	24(55.8%)	<0.001**
1	0(0%)	13(30..2%)	
2	1(11.1%)	6(13.9%)	
3	5(55.5%)	0(0%)	
4	3(33.3%)	0(0%)	

References:

1. Thrasher JB , Paulson DF: prognostic factors in renal cancer. Urology clinics of North America 1993;20:247-262
2. Hoffman DM, Gitlitz BJ, Belldegrun A, Figlin RA: Adoptive cellular therapy. Semin oncology 2000;27:221-233
3. Childs R, Chernoff A: Regression of metastatic renal cell carcinoma. NEJM 2000;343:750-758.
4. Thones W , Storkel S, Rumpelt HJ: Histopathology and classification of renal cell tumours: basic cytological and histopathogical elements and their use for diagnostics. 1986;181:125-143.
5. Skinner DG, Colvin RB, Vermillion CD, Pfister RC, Leadbetter WF, Diagnostics and management of renal cell carcinoma. A clinical and pathological study of 309 cases. 1971;28:1165-1177.
6. Guinan P, Sobin LH, Algaba F, Badelliono F, Kameyama S, Mac Lennan G, Novick A: TNM staging of renal cell carcinoma: work group NO.3 Union International control le cancer(UICC) and THE American Joint Committee on Cancer(AJCC) 1997;80:992-993.
7. Cheville JC, Lohse CM, Zincke H, Weaver AL, Blute ML.Comparison of outcome and prognostic features among histological subtypes of renal cell carcinoma. Am J Surg Path 2003; 27: 612-24.
8. Lam JS,Schvarts O, Leppert JT,Pantuck AJ et al.Postoperative surveillance protocol for patients with localized and locally advanced renal cell carcinoma based on validated prognostic nomogram and risk group stratification system. J Urol 2005; 174:466-472.
9. Leibivitch I,Raviv G,Mor Y,Nativ O et al. Reconsidering ipsilateral adrenalectomy during radical nephrectomy for renal cell carcinoma. Urology 1995;46:316-320.
10. Ficarra V,Martignoni G,Lohse C,Novara G et al. External validation of Mayo Clinic Stage, Size, Grade and Necrosis Score to predict cancer specific survival using a European series of conventional renal cell carcinoma. J. Urol, 2006; 175:1235-1239.
11. Zisman A,Pantuck AJ,Weider J,Chao DH et al.Risk group assessment and clinical outcome algorithm to predict the natural history of patients with surgically resected renal cell carcinoma.J Clin Oncol 2002;20:4559-4566.
12. Patard JJ, Leray E, Rodriguez A, Guille F, Lobel B: correlation between symptom graduation, tumor characteristics and survival in renal cell carcinoma. Eur Urol 2003;44:226-232.