

**Case report:**

## **Bladder carcinoma with divergent histological differentiation (mixed heterogeneous features) detected on trans-urethral resection**

**<sup>1</sup>Dr.I.Shah\* , <sup>2</sup>Dr.saba maqdoomi, <sup>3</sup>Dr.shafeen majid koul, <sup>4</sup>Dr.kulbir singh**

<sup>1</sup> H.O.U., Urology Unit 1 , ASCOMS Jammu J&K

<sup>2</sup>Department of pathology, Skims soura Srinagar J&K

<sup>3,4</sup>General surgery PG resident , ASCOMS Jammu J&K

Corresponding author\*

---

### **Abstract:**

Bladder cancer can be classified histologically as urothelial and non urothelial cancer. Histological classification of bladder tumors remains an important predictor of treatment response and patient outcome with pure non urothelial cancer associated with poorer outcome as compared to pure urothelial cancer. Genetic base studies have indicated that histological variants of urothelial cancer arise from a common clonal precursor and recent studies indicate that worst prognosis is noticed with divergent histological differentiation (mixed heterogeneous features) to pure urothelial tumors.

Keywords: bladder tumor, TURBT, Small cell carcinoma

---

### **INTRODUCTION:**

Bladder cancer is 4<sup>th</sup> leading cause of cancer in American men<sup>1</sup> and 20 % to 30% of patients present with muscle infiltrative tumors. Urothelial cancers which represent greater than 90% of bladder cancer is mostly noticed in pure forms. However, urothelial cancer is known to show variant histological features otherwise known as divergent differentiation, estimating range from 7 to 81%<sup>1</sup>. The large variation in mixed histological features is likely due to difference in sampling techniques and improved accuracy with recognition in recent years of the possibility that outcome may be related to histological subtypes present within the specimen even in small areas<sup>2</sup>. It has been noticed that mixed histological types (urothelial with mixed histological features) remains a significant independent predictor of overall survival as well as recurrence free survival<sup>8</sup>.

### **CASE REPORT:**

55 years male patient non diabetic and non hypertensive presents to urology OPD with chief complaints of macro hematuria with history of passing occasional black colored clots from past 2 months, patient did not have any history of colicky pain or ingestion of any anti platelet drugs. Patient was a chronic smoker and use to smoke 20 to 30 cigarettes per day. No history of loss of weight and appetite. Patient was advised trans-abdominal ultrasound, which revealed prostate of 23 grams with 40 × 15 mm hypoechoic mass on right lateral wall of urinary bladder. Fig 1

Contrast enhanced CT scan showed enhancing mass on right lateral wall 4.5 × 1.7 cm proximal to right UVJ with no infiltration to prevesical fat. Fig 2.

Patients routine investigation were within normal limits. Patient was subjected to CPE with TURBT under regional anesthesia which revealed poorly

differentiated carcinoma and in some areas the tumor cell appears like small cell carcinoma with hyperchromatic nuclei with overlying epithelium of bladder shows intraepithelial neoplasia with areas of squamous metaplasia with no invasion to muscularis propria. Patient was referred to department of radiation oncology where patient was given 21 days of radiotherapy with chemotherapy. Check CPE after 3 months showed scarred areas at right lateral wall with no recurrence of tumor. Patient was closely observed in the department and underwent PET scan which revealed no definite evidence of metabolic active disease at the primary site.

#### DISCUSSION:

The spectrum of bladder cancer is quite diverse with urothelial cancers making a vast majority. Bladder cancer is the sixth most common cancer and ninth leading cause of cancer mortality. Urothelial cancer which represent more than 90% of bladder cancer is mostly found in its pure form however urothelial cancer is known to show variant histological features otherwise known as divergent differentiation ranging from 7% to 81%. The large variation in the reported incidence of divergent differentiation is likely due to differentiation in sampling technique and improved accuracy and may be because of recognition of

histological subtypes present within the specimen. Clinical significance in urothelial tumors remains unsettled with evidence suggesting that it might be an indicator of poor response after radical cystectomy, radiation and systemic chemotherapy. Invasive transitional cell carcinoma of bladder treatment with radiotherapy is 40% in patients with tumor responding to radiotherapy 5 years survival rate is 58% corresponding rate of 21% for non responders<sup>9</sup>. There is a need to identify the tumor that will respond to radiation, but little progress has been made in this area, several studies have attempted to relate the histological finding in bladder cancer to prognosis with varied results. Most studies have used an initial study population that itself is heterogeneous with respect to histological type and stage of tumor. It has been noticed by Tannenbaum *et al*<sup>3</sup> that presence of squamous metaplasia within the tumor is associated with poor response.

In our case we had excellent results after TURBT with radiotherapy given for 21 days and patient was subjected to check CPE and PET scan which revealed that tumor had melted after radiotherapy leaving with wide scar with no reoccurrence of tumor after 3 months of surgery. Patient is still under follow up in the department and this is in agreement with the findings of Boileau *et al*<sup>8</sup>.



#### REFERENCES:

- 1.JewettHJ,KingLR,Shelly WM.A study of 365 cases of infiltrating bladder cancer:relation of certain pathological characteristics to prognosis after extirpation.JUrol 1964;92:668-78
- 2.Pomerance A. Pathology and prognosis following total cystectomy for carcinomaof bladder.Br J Urol 1972;44:451-8
- 3.TannenbaumSI,Carson3 CC,TatumA,PaulsonDF.Squamous carcinoma of urinary bladder.Urology 1983;22:597-9
- 4.Blandy BJ,EnglandHR,EvansJW,etal.Reappraisal of the role of radical radiotherapy and salvage cystectomy.Br J Urol 1980;52:506-10
- 5.MostofiKF,ed.WHO international histological classification of tumors.Histological typing of urinary bladder tumors.Geneva:WHO,1973.
- 6.Jones MA BloomHJG,GrantWilliams,TrottPA,WallaceDM.The management of squamous cell carcinomas of the bladder.Br J Urol 1980;52:511-14
- 7.SotoEA,FriedellGH.TiltmanAJ.Bladder cancer as seen in giant histological sections.Cancer 1977;39:447-55
- 8.Boileau MA Johnson DE,ChanRC,GonzalesMO.Bladdercarcinoma.results with preoperative radiation therapy and radical cystectomy.Urology 1980;16:569-76.
- 9.ThomasDG,WardAM,Williams JL.A Study 52 cases of adenocarcinoma of the bladder.Br J Urol 1971;43:4-15
- 10.Bell JT,BurneySW,FriedellGH.Blood vessel invasion in human bladder cancer.JUrol 1977;105:675-8
- 11.Heney NH,ProppeK,ProutGR,GriffenPP,ShipleWU.Invasive bladder cancer:Tumorconfiguration,lymphatic invasion and survival.JUrol 1983;130:895-7.