

METASTATIC ADENOCARCINOMA OF THE URINARY BLADDER FROM A PRIMARY GASTRIC CANCER: A CASE REPORT

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INTRODUCTION

Primary bladder tumour is a frequent urological malignancy and present as transitional cell carcinoma in 95% of cases. The incidence of secondary bladder tumour from a distant organ is quite rare^{1,2} whereas primary adenocarcinomas and squamous carcinoma account for less than 5% of all bladder malignancies³. A review of the literature concluded that the majority of cases of gastric cancer metastatic to bladder were reported in literature from Japan. This is the first case of stomach cancer metastatic to the urinary bladder reported from Khyber Pakhtunkhwa, Pakistan.

CASE REPORT

A young female of 30 years of age, non-smoker with no other co-morbid factors, underwent partial gastrectomy followed by adjuvant chemotherapy for primary adenocarcinoma of the stomach eighteen months back. She was referred with ultrasound report of bladder masses with no urological symptoms. She was prepared for cystoscopic evaluation and possible resection of bladder tumour.

Her Hemoglobin % level was 7gm/dl and B negative blood group. She was transfused only 2 points of blood because of non-availability. Her repeat Hemoglobin % level was 9gm/dl. Cystoscopy showed two solid masses of 7x8cm on the anterosuperior wall of urinary bladder. Transurethral resection of bladder tumour was done and upto 70 gram of tissue resected and complete resection could not be achieved because of fear of bleeding and rare blood group.

Histopathological examination revealed tumour cells diffusely infiltrating lamina propria. The pathologist reported the specimen as a metastatic tumour from the primary gastric carcinoma. No other sites were involved.

DISCUSSION

Metastatic vesical tumours constitute 1% of all neoplasias affecting this organ, approximately⁴. Most cases of bladder cancer arise

primarily from the bladder, while secondary or metastatic tumours are rare and constitute less than 2% of all neoplasia affecting this organ^{5, 6}. The incidence of metastasis to bladder is similar between genders and mean age ranges from 44 to 63 years⁷.

The mechanism of metastasis to the urinary bladder include direct extension of the primary focus of exfoliated cells from the ureter and renal pelvis, and lymphatics, hematogenous, or peritoneal dissemination from a distant focus⁸. In case of bladder involvement by direct extension, the most common primary sites primary sites in descending order are the colon, prostate, rectum and cervix. However, in case of metastases from a distant organ is considered, the stomach comes third as the most frequent location of the primary tumour after melanoma and breast carcinoma⁹.

It is most frequently found in the bladder dome and the anterior wall¹⁰. The presence of polypoid formation, Von brunn's nests, glandular or mucous metaplasia in the adjacent mucosa makes a primary bladder lesion more likely¹¹. In this case, positive cyokerating staining confirms epithelial origin. Negative p63 immunostain makes urothelial carcinoma highly unlikely. Moreover poorly differentiated carcinoma favour adenocarcinoma. This represents metastatic tumour from the patients gastric primary.

In females, bladder tumours are rarely found in the absence of Krukenberg's tumour. Therefore, the ovary was hypothesized to have direct metastasis from the stomach and other gastrointestinal organs to the urinary bladder¹¹.

Tumour metastasis to the bladder appears on computerized tomography as a focal or diffuse thickening of the bladder wall^{5, 12, 13}.

Histochemical stains for mucins do not appear to be useful in differentiating primary from secondary adenocarcinoma. Mucin expression was found to be present in both bladder and colonic mucosa which limits its usefulness¹⁴.

Similarly, both primary and secondary neoplasm of the bladder are carcinoembryonic antigen (CEA) positive, even though a negative CEA correlates more with a primary bladder neoplasm. Using neuron-specific enolase (NSE) and chromogranin does not seem to be useful in differentiating primary from secondary adenocarcinoma because of the presence of neuroendocrine cells in both tumours^{14,15}. Therefore, the history of tumour elsewhere, and comparison with the original histology can confirm the secondary nature of a bladder tumour in many cases.

REFERENCES

1. Johansson SL, Cohen SM. Epidemiology and etiology of bladder cancer. *Semin Surg Oncol* 1997;13:291-8.
2. Kabbaj N, Cherkaoui MM, Dafiri R, Imani F. A propos de cas rares de tumeurs de vessie. *J Radiol* 1998;79:247-52.
3. Bates QW, Baithn SI. Secondary neoplasms of the bladder are histological mimics of nontransitional cell primary tumours: clinicopathological and histological features of 282 cases. *Histopathology* 2000;36:32-40.
4. Antunes AA, Tibério MS Jr, Evandro F. Vesical metastasis of gastric adenocarcinoma. *Int Braz J Urol* 2004;30:403-5.
5. Kim HC, Kim SH, Hwang SI, Lee HJ, Han JK. Isolated bladder metastases from stomach cancer: CT demonstration. *Abdom Imaging* 2001;26:333-5.
6. Antunes AA, Siqueira TM Jr, Falcao E. Vesical metastasis of gastric adenocarcinoma. *Int Braz J Urol* 2004;30:403-5.
7. Saba NF, Hoening DM, Cohen SI. Metastatic signet-ring cell adenocarcinoma to the urinary bladder. *Acta Oncol* 1997;36:219-20.
8. Ganem EJ, Batal JT. Secondary malignant tumours of the urinary bladder metastatic from primary foci in distant organs. *J Urol* 1956;75:965-72.
9. Velcheti V, Govindan R. Metastatic cancer involving bladder: a review. *Can J Urol* 2007;14:3443-8.
10. Vieillefond A, Quillard J, Ladouch-Brade A, Meduri G, Nenert M, Matani A, et al. Tumeurs de vessie point de vue du pathologist. *Ann Pathol* 1989;9:249-64.
11. Mostofi FK, Thompson RV, Dean AL. Mucous adenocarcinoma of the urinary bladder. *Cancer* 1955;8:741-58.
12. Nakamura K, Hihara T, Nishiumi T, Yoneyama T. A case of metastatic urinary bladder tumour from gastric carcinoma. *Hinyokika Kyo* 1992;38:845-7.
13. Ota T, Shinohara M, Kinoshita K, Sakoma T, Kitamura M, Maeda Y. Two cases of metastatic bladder cancers showing diffuse thickening of the bladder wall. *Jpn J Clin Oncol* 1999;29:314-6.
14. Newbould M, McWilliam LJ. A study of vesical adenocarcinoma, intestinal metaplasia and related lesions using mucin histochemistry. *Histopathology* 1990;17:225-30.
15. Pallesen G. Neoplastic Paneth cells in adenocarcinoma of the urinary bladder: a first case report. *Cancer* 1981;47:1834-7.

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