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A RARE CASE OF SOLITARY PULMONARY METASTASIS IN A TREATED CASE OF TRANSITIONAL CELL CARCINOMA OF THE URINARY BLADDER

Oncology

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ABSTRACT

Background: Transitional cell carcinoma (TCC) of urinary bladder usually does not present with solitary pulmonary metastasis. These tumors either recur locally or manifest with multiple disseminated metastatic deposits. So far, no cases have been reported in literature with such findings. However, this is the first report related to solitary pulmonary metastasis in a patient, already treated for transitional cell carcinoma of urinary bladder.

Case presentation: The present study reports a case of 50-year male patient who was initially diagnosed to have muscle invasive urothelial carcinoma (transitional cell carcinoma; TCC) of urinary bladder(muscle invasive, pT2N0M0) in May 2013 and underwent radical cystectomy with ileal conduit diversion followed by adjuvant chemotherapy . Patient was in regular follow up till July 2016 (disease free interval of 3 years) when computerised tomography (CT) scan of the chest revealed solitary right middle lobe pulmonary metastasis. Distant metastasis was ruled out. Image Guided biopsy of lung lesion showed metastatic TCC. Final diagnosis of TCC in lung metastasis was histopathologically identified, subsequent to right middle lobectomy. Patient had been on regular follow up till July 2017 when on CT scan no local, loco-regional or distant metastasis was noticed.

Conclusions: Although, it is rare that transitional cell carcinoma of urothelium metastasize to lung making a solitary soild lesion, the treating physician must be aware of this entity and primary surgical removal should be strongly considered in patients with good performance status .

KEYWORDS

Transitional cell carcinoma, Urothelial carcinoma, computerised tomography scan, adjuvant chemotherapy ,Case report

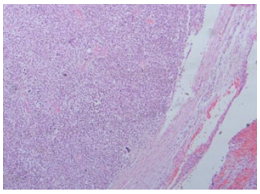
Background

Transitional cell carcinoma (TCC) also known as Urothelial cell carcinoma is most common malignancy of male urinary bladder and usually presents in advanced stages and patient needs multimodality treatment to achieve cure. Radical surgery which may comprise radical cysto-prostatectomy with or without neobladder reconstruction or ileal conduit formation followed by adjuvant chemotherapy [1]. TCC usually recur systemically and as multiple metastatic deposits as described in literature so far. Curative surgical treatment option should be offered to the patients having good performance status with solitary resectable metastatic lesion.

Case report

In July 2015, a 50 year male patient presented with complaint of productive sputum. On CT scan based evaluation, he was diagnosed to have solitary pulmonary metastatic lesion in middle lobe of right lung. Retrospective inspection of patient records and charts revealed that in june 2013 ,the patient had already been treated for transitional cell carcinoma (TCC) of urinary bladder. At that time, patient had undergone radical cysto-prostatectomy with creation of ileal conduit for muscle invasive TCC of urinary bladder.

Patient had been in regular 3 monthly follow up with all negative scans until July 2015 when CT scan of the his chest revealed isolated, solitary solid metastatic lesion in middle lobe of right lung. Systemic examinations showed no other metastatic lesion and his sputum found to be negative for acid – fast bacilli (AFB). Endobrochoscpy was normal. CT- guided biopsy of the right lung lesion showed high grade TCC cells. Patient was planned for thoracotomy and right middle lobectomy. Post-operative period was uneventful and patient was discharged on post-operative day 5 after removing intercostals chest drain. High grade metastatic TCC cells were reported on final histopathological report (fig 1 ,2 and 3). Patient is free from disease for 24 months.



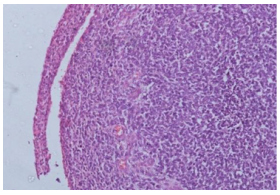


Fig1 and 2: High grade TCC revealing transmural infiltration and high nuclear pleomorphism.

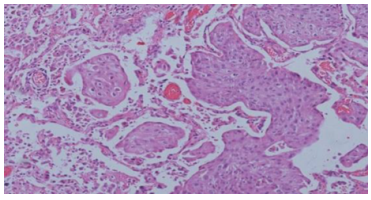


Fig 3: pulmonary metastasis with urothelial tumor cells within the alveolar cavity.

Discussion

Muscle invasive disease and metastases in a diagnosed case of urinary bladder accounts for approximately 20-30% cases with superficial bladder tumors in 5% to 20% cases, which eventually progress to invasive one in due course of the disease[1]. TCC of urinary bladder spreads by regional lymphatics, primarily affecting gluteal, obturator and iliac lymph nodes with distant visceral metastasis being less common. Distant metastasis typically occur in the presence of penetration of deep muscular layer of the bladder by tumor. The most common sites of distant metastases are liver, lung, mediastinum, adrenals and bone in decreasing order of frequency [2]. Most of the time, Lung metastasis are multiple nodular lesions and sometimes present as isolated metastatic foci. However, solitary pleural based nodules are very rare. [3].

Lung metastases are found in approximately 20%-25% of cases with TCC of urinary bladder and are usually multiple . Approximately 2%-5 % of metastatic lung lesions develop cavitation. Dodd and Boyle have reported series of 574 cases of malignant tumors of lung with only 4% of metastases showing cavitation[4]. In another study, Rovirosa et al have reported 9 cases of solitary pulmonary metastases with cavitation but solitary lesions with solid component only are very rare and development of solitary pulmonary lesion in a previously treated case of TCC of urinary bladder should raise the suspicion of metastatic disease [5].

Radical cystectomy with pelvic lymphadencectomy remains the

treatment of choice for patients with muscle invasive bladder cancer with good postoperative recovery and improved long term prognosis if surgery is done within 2 to 3 months of the diagnosis [1].

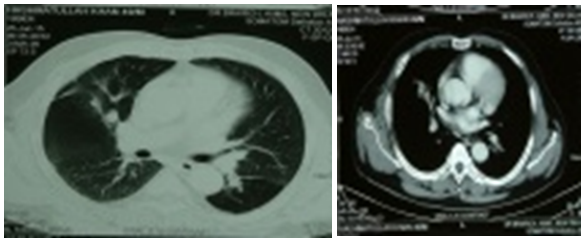
Chemotherapy, either in neo-adjuvant or in adjuvant setting, is considered in high- risk patients with muscle-invasive disease[6]. Two meta-analyses reported modest improvement in survival over surgery alone[7].

Though systemic chemotherapy is standard treatment for metastatic TCC bladder with variable toxicity profile including mucositis and myelosuppression, renal dysfunction precludes the use of systemic chemotherapy further [7]. It has been suggested by Dreicer et al that resection of isolated metastases of TCC of bladder may contribute to long- term survival, with 5- year survival rates of up to 33% [8]. Therefore, surgical resection of lung metastasis should be considered which may vary from wedge resection of metastatic nodule to lobectomy depending upon the location of lesion and it's relation with bronchus. Here in this case as the lesion was in close proximity with bronchus and fissure, therefore, right middle lobectomy was carried out.

Conclusion

The following case of solitary solid pulmonary lesion proved by biopsy to be metastatic TCC described in order to draw attention to metastatic disease in the differential diagnosis of solitary pulmonary lesions apart from tuberculosis or aspergillosis. Early biopsy should be performed to confirm the metastatic nature of the such suspicious lesions, whenever encountered. Performance status of the patient and disease free interval should also be taken in to consideration while planning for the curative treatment. Literature has supported surgical resection of solitary pulmonary metastatic disease as an option and this could avoid the unnecessary use of systemic chemotherapy and probably result in improved survival due to early institution of the management .

Conflicts of interests : There are no conflicts of interest.



REFERENCES

1. Bischoff CJ, Clark PE. Bladder cancer. Curr Opin Oncol 2009;21:272-7.
2. Goldman SM, Fajardo AA, Naraval RC, Madewell JE. Metastatic transitional cell carcinoma from the bladder: radiographic manifestations. AJR 1979; 132: 419-425.
3. Alexander PW, Sanders C, Nath H. Cavitary pulmonary metastases in transitional cell carcinoma of urinary bladder. AJR 1990;154:493-4
4. Dodd GD, Boye JJ. Excavating pulmonary metastases. Am J RoentgenolRadium Ther Nucl Med 1961;85:277-93.
5. Rovirosa A, Salud A, Felip E, Capdevila F, Giralt J, Bellmunt J. Cavitary pulmonary metastases in transitional cell carcinoma of the urinary bladder. Urol Int 1992;48:102-4.
6. Dougherty D W, Gonsorcik VK, Harpster LE, Trussell JC, Drabick JJ. Superficial bladder cancer metastatic to lungs: Two case reports and review of the literature. Urology 2009;73:210
7. Barocas DA, Clark PE. Bladder cancer. Curr Opin Oncol 2008;20:307-14.
8. Dreicer R. Locally advanced and metastatic bladder cancer. Curr Treat Options Oncol 2001;2:431-6.