



## Short Communication

# Role of MRI in Diagnosis of Urinary Bladder Carcinoma

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### Introduction

Urinary bladder cancer is the ninth most common cancer worldwide. It is the seventh most common cancer in men and the seventeenth most common cancer in women. Bladder carcinoma is responsible for 5.6 percent of cancer cases in men and 1.8 percent of cancer cases in women in India, with a real crude rate (ACR) of 174 in men and 561 in women. A thorough review of bladder cancer cases reported between 2005 and 2010 was conducted. Since it offers high fluid-tissue contrast resolution and clearly delineates urinary bladder musculature, magnetic resonance imaging provides an excellent insight into the anatomy and physiology of the urinary bladder.

### Materials and Methods

#### Clinical and radiological evaluation

A detailed and accurate clinical history and evaluation are required prior to imaging. Recent endoscopic procedures can cause haemorrhage and edoema, which can make an MRI look false, so a history of any intervention was obtained. After a three-week period without any invasive procedures on the urinary tract, an MRI was performed.

Body coils were used in an MRI with a super conductive magnet device (Magnetom Avanto, Tim 76 18, Siemens) running at 1.5 Tesla. The patients' bladders were kept reasonably full [1]. The assessment of the wall and visualisation of focal lesions is improved with adequate distension of the urinary bladder.

#### Treatment and Pathological Assessment

Nine patients were removed from the study after an MRI was performed on 34 of them. Five patients had very advanced bladder lesions and were thus unfit for surgery, three patients had early disease, and one patient refused to agree to surgery [2].

Prior to surgery, both of the patients had a histological diagnosis. The study's 25 patients all underwent radical cystectomy with different forms of diversions. The results of the surgery were reported and compared to the results of the MRI. The resected specimens were preserved and sent to be examined histopathologically [3]. The urinary bladder and other excised organs, lower ureters, and posterior urethra in males, and lower ureters, urethra, uterus with its appendages, and anterior vaginal wall (or entire vagina) in females, were all examined pathologically

### Observation

The research included twenty-five patients with urinary bladder carcinoma who were candidates for radical cystectomy. Nine other patients who had a urinary bladder MRI were ruled out of the sample for a variety of reasons. During the research, the following observations were made. There were 22 (88%) males and 3 (12%) females among the twenty-five patients. The patients' ages ranged from 18 to 80.

**Magnetic Resonance Imaging:** Three (12%) of the 25 patients who underwent MRI had a bladder tumour with focally disrupted low intensity band of bladder wall (T2a) on T2-weighted image, while six (24%) had a bladder tumour with thickening of adjacent wall on T1-weighted image and total disruption of low intensity band of bladder wall on T2-weighted image, indicating stage T2b.

### Conclusion

In the imaging of urinary bladder tumours, MR imaging is one of the first options. The size of the bladder tumour and the presence of neighbouring organs can easily be seen on MR imaging with dynamic gadolinium enhancement.

Because of its inherent high soft tissue contrast, direct multiplanar imaging capabilities, and the availability of a non-nephrotoxic, renally excreted contrast agent, MR imaging has many advantages over other modalities for detecting and staging bladder tumours.

### References

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