



Bladder Cancer in Neurogenic Patients

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In the general population, Bladder Cancer (BCa) has a frequency of about 11,000 new cases per year. Transitional cell urothelial carcinoma is the most common histological subtype (90%). The main risk factors have already been extensively described in the literature and include: smoking and exposure to industrial carcinogens (paint, rubber, dyes, and pharmaceutical production). All these factors can contribute to chronic irritation and then inflammation of the bladder.

Bladder cancer represents the ultimate complications of the neurogenic bladder. Some data in the literature have shown that the incidence of BCa in patients with a neurogenic bladder (i.e., neuro-urological patients) is slightly higher than in the general population and after a long period of evolution of the neurogenic bladder (15–20 years). In these patients, BCa are often diagnosed at a more advanced stage of the disease with a high-proportion of muscle-invasive BCa. They are, therefore, neoplasms with a worse prognosis [1].

In this particular population, the proportion of squamous-cell tumour is also higher than the general population [1].

In addition to the traditional risk factors identified in the general population, specific risk factors contributing to the local chronic inflammation could be involved in the urothelial carcinogenesis in neuro-urological patients, including the presence of a bladder catheter, both permanent or intermittent, recurrent urinary tract infections and bladder stones.

Despite these hypotheses, few data exist regarding BCa in neurourological patients and its carcinogenesis. Moreover, no recommendation exists regarding screening, diagnosis and management.

It is a priority research area that involves a reflection on the management of a very specific population of patients with a double neurological and urological disability.

In this special issue, many of the above-mentioned issues are analyzed by international experts in the field.

First, Sbizzera et al. [2] found that there were no sufficient quality data to support cystoscopy and urinary cytology as effective tools for the diagnostic and surveillance of bladder cancer in neuro-urological patients. FISH analysis to detect chromosomal changes, and PCR for TERT and FGFR3 promoter mutation detection, associated or not with KRAS mutation detection, stand out as candidates of interest for bladder cancer detection in this specific population and should be prospectively tested.

Similarly, Welk [3] reported that the current literature did not support screening patients with spinal cord injury for BCa; however, physicians should have a high-level of suspicion for symptoms suggestive of bladder cancer, and evaluate these at-risk patients promptly.

From an epidemiological view, Michel et al. [4] reported that the incidence of BCa in France between 2010 and 2018 was 174.9/100,000 persons/year, and was particularly high in patients with SCI.

Moreover, Mühlbauer et al. [5] observed that neuro-urological patients with BCa had a poor prognosis regardless of their etiology or the level of neurological lesion. Patients with spinal cord lesions, appeared to develop BCa at a young age, but compared to other etiologies latency from neurogenic bladder to bladder cancer was longer.

In terms of carcinogenesis, Michel et al. [6] reported that in BCa in neurogenic bladders, markers of basal differentiation, proliferation and peri-tumoural lymphocytes were significantly more expressed compared to controls. These results suggest the aggressiveness of these tumours and the role of chronic inflammation in the carcinogenesis.

Interestingly, Cancrini et al. [7] suggested that the profile of immunohistochemical biomarkers' expression in both neurogenic bladder cancers and in schistosomiasis bladder cancers was similar.

Finally, Bothig et al. [8] advised that radical cystectomy in spinal cord injury patients should be performed in a high-volume department by the most experienced surgical team.

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The inclusion of the urologist caring for the patient from the spinal cord injury center was highly recommended.

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