Squamous Cell Carcinoma of the Bladder Clinical Features

Squamous cell carcinoma of the bladder is the second most common type of bladder cancer (after transitional cell carcinoma). The risk factors for this disease include smoking, chronic cystitis, infection with Schistosoma, and chronic nephrolithiasis. Clinical features include painless hematuria, urinary frequency, and urinary urgency.

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Risk Factors

Smoking

Cigarette

Smoking is a risk factor for developing squamous cell carcinoma of the bladder. The bladder can be exposed to very high concentrations of toxins from cigarette smoke once the toxins are excreted via the urinary tract. These toxins, such as polycyclic aromatic hydrocarbons, disrupt DNA and lead to dysplasia.

Chronic Cystitis

the Crone with Bladder on Fire

Chronic cystitis is a painful bladder condition that includes symptoms such as pelvic pain or pressure and a frequent urge to urinate. Most of the time, the inflammation is caused by a bacterial infection like E. coli but may also include irritation from urinary catheters, certain medications like cyclophosphamide, or radiation therapy. Chronic irritation leads to metaplasia and later dysplasia.

Schistosoma

Sisters-swimming

In areas where schistosomiasis is endemic, there is a high incidence of squamous cell carcinoma of the bladder. Schistosoma haematobium is a species of digenetic trematode, belonging to blood flukes. It is commonly found in Sub-Saharan Africa and the Middle East. Schistosoma haematobium invades the venous plexus around the urinary bladder and the eggs are released by the adult worm which causes chronic granulomatous inflammation in the mucosal and submucosal layers of the bladder.

Chronic Nephrolithiasis

Kidney throwing stones at the Crone

Chronic nephrolithiasis (kidney stones) is more common in young and middle-aged adults. Certain medical conditions increase the risk of nephrolithiasis which include primary hyperparathyroidism, obesity, diabetes, and gout. Recurring kidney stone formation is associated with the irritation of the bladder wall which can lead to dysplasia of the transitional cells.

Clinical Findings

Painless Hematuria

No Pain sign near Red-urinal

Painless hematuria is seen in patients with squamous cell carcinoma of the bladder. Be aware that transitional cell carcinoma will also present with painless hematuria. There are no casts seen in the bladder.

Urinary Frequency and Urgency

Urinating Frequency-wave and Urgently squeezing knees

Patients may complain of urinary frequency and urgency. Urinary frequency is distinguished from polyuria, which is urine output of >3 L/day. Urinary urgency is the sudden need to urinate.

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