Bladder cancer (BCa) remains a commonly occurring disease [1]. Multiple risk factors of BCa have been identified, the most important of which are cigarette smoking and various occupational exposures. As a matter of fact, a thorough understanding of the epidemiology of bladder cancer can assist in the prevention and early detection of the disease. Approximately 75–80% of bladder tumors present as non–muscle invasive (NMI) disease and the remainder present as muscle–invasive disease (MI). Proper staging, grading, and risk stratification are critical for determining the most appropriate management strategies for NMI based on risk of recurrence and progression. Although the family predisposition to BCa is uncertain, the possibility of an inherited subtype of bladder cancer could not be excluded. Importantly, the issue of genetic alterations in BCa has recently been raised several times by Banaszkiewicz et al. [2, 3].

The manuscript by Edyta Wieczorek et al. [4] represents the second study on the same group of Polish patients diagnosed with BCa recently published by the same author [5]. The article brings up an issue of the association between genetic polymorphism in the promoter region of the matrix metalloproteinases (MMP7 and MMP8) and the overall risk of BCa. As underlined by the authors, the described proteinases present different activities: MMP7 is a negative prognostic factor of various malignances, while MMP8 exhibits an inhibitory effect on tumorigenesis and metastasis.

What can we learn from this study? The authors analysed a very heterogeneous group of 241 patients with BCa demonstrating different clinical stages (T1–T4) and grades (G1–G3). Most of the patients (70%) had NMI disease and in over 12% of cases the pathology was not specified. The control group consisted of 199 healthy individuals. The authors concluded that the genetic variations in two genes encoding members of the MMP7 and MMP8 were not associated with the risk of BCa in the Caucasian population.
of the invasive BCa are identified as de novo lesions without a previous history of NMI disease. Unfortunately, in the study by Wieczorek et al., the clinical information about tumor size, number, intravesical therapy and dates of recurrence (if any), chemotherapy, radical cystectomy and pathological findings at cystectomy is missing. Perhaps the authors considered the data as irrelevant for study purposes. Furthermore, the manner of stratifying smokers (especially ex-smokers as those individuals, who were abstinent for at least one year before the interview), from the clinical point of view, seems far from the ideal. Does only one year of smoking abstinence have any impact on health status? The authors also observed the higher prevalence of MMP7 GG genotypes among BCa patients than in the controls (OR, 1.54; 95% CI, 0.93–2.55; p = 0.093). Does it have any particular meaning knowing it is not statistically significant?

In conclusion, Wieczorek and colleagues, in an interesting study, evaluated the association of MMPs polymorphisms and BCa risk [4]. Due to some drawbacks in methodology (most probably related to insufficient advice received by the researchers from their clinical counterparts), the study appears much more relevant for scientists than urologists. What is important, the authors underline that “the search for new biomarkers of cancer is still required and more extensive research on genetic polymorphisms of MMP in BCa should be undertaken in the future”. Perhaps, the recently accepted (by the British Journal of Urology) manuscript “Genetic polymorphisms in matrix metalloproteinases (MMPs) and tissue inhibitors of MPs (TIMPs), and bladder cancer susceptibility” by Wieczorek et al. will bring more answers to the intriguing issue of MMP polymorphisms in BCa [5].

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Correspondence
Dr. habil. Maciej Salagierski M.D., Ph.D., FEBU maciej.salagierski@nhs.net