The top 100 most cited manuscripts in bladder cancer

Table 1. The 100 most cited papers on bladder cancer

Rank	Manuscript (first author, title, journal and year)	Citations
1	Stein JP. Radical cystectomy in the treatment of invasive bladder cancer: Long-term results in 1,054 patients. Journal of Clinical Oncology 2001.	2257
2	Sylvester RJ. Predicting recurrence and progression in individual patients with stage Ta T1 bladder cancer using EORTC risk tables: A combined analysis of 2596 patients from seven EORTC trials. European Urology 2006.	1407
3	Grossman HB. Neoadjuvant chemotherapy plus cystectomy compared with cystectomy alone for locally advanced bladder cancer. New England Journal of Medicine 2003.	1305
4	Weinstein JN. Comprehensive molecular characterization of urothelial bladder carcinoma. Nature 2014.	1281
5	Powles T. MPDL3280A (anti-PD-L1) treatment leads to clinical activity in metastatic bladder cancer. Nature 2014.	1233
6	Reddy EP. A point mutation is responsible for the acquisition of transforming properties by the T24 human bladder carcinoma oncogene. Nature 1982.	1226
7	von der Maase H. Gemcitabine and cisplatin versus methotrexate vinblastine, doxorubicin, and cisplatin in advanced or metastatic bladder cancer: Results of a large randomized, multinational, multicenter, phase III study. Journal of Clinical Oncology 2000.	1202
8	Rosenberg JE. Atezolizumab in patients with locally advanced and metastatic urothelial carcinoma who have progressed following treatment with platinum-based chemotherapy: a single-arm, multicentre, phase 2 trial. Lancet 2016.	1199

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9	Morales A. Intracavitary bacillus Calmette-Guerin in treatment of superficial bladder tumours. Journal of Urology 1976.	1065
10	Capon DJ. Complete nucleotide sequences of the T24 human bladder carcinoma oncogene and its normal homolog. Nature 1983.	1026
11	von der Maase H. Long-term-survival results of a randomised trial comparing gemcitabine plus cisplatin, with methotrexate, vinblastine, doxorubicin, plus cisplatin in patients with bladder cancer. Journal of Clinical Oncology 2005.	852
12	Babjuk M. EAU guidelines on non-muscle-invasive urothelial carcinoma of the bladder: update 2013. European Urology 2013.	811
13	Sidransky D. Identification of p53 gene mutations in bladder cancers and urine samples. Science 1991.	810
14	Shih C. Isolation of a transforming sequence from a human bladder carcinoma cell line. Cell 1982.	792
15	Heney NM. Superficial bladder cancer: progression and recurrence. Journal of Urology 1983.	763
16	Sylvester RJ. Intravesical bacillus Calmette-Guerin reduces the risk of progression in patients with superficial bladder cancer: a meta-analysis of the published results of randomized clinical trials. Journal of Urology 2002.	739
17	Parada LF. Human EJ bladder carcinoma oncogene is homologue of Harvey sarcoma virus ras gene. Nature 1982.	734
18	Lamm DL. Maintenance bacillus Calmette-Guerin immunotherapy for recurrent TA, T1 and carcinoma in situ transitional cell carcinoma of the bladder: a randomized Southwest Oncology Group Study. Journal of Urology 2000.	732
19	Loehrer PJ. A randomized comparison of cisplatin alone or in combination with methotrexate, vinblastine, and doxorubicin in patients with metastatic urothelial carcinoma: a cooperative group study. Journal of Clinical Oncology 1992.	695

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20	Burger M. Epidemiology and risk factors of urothelial bladder cancer. European Urology 2013.	694
21	Nortier JL. Urothelial carcinoma associated with the use of a Chinese herb (Aristolochia fangchi). New England Journal of Medicine 2000.	693
22	Shabsigh A. Defining early morbidity of radical cystectomy for patients with bladder cancer using a standardized reporting methodology. European Urology 2009.	678
23	Esrig D. Accumulation of nuclear p53 and tumor progression in bladder cancer. New England Journal of Medicine 1994.	653
24	Der CJ. Transforming genes of human bladder and lung carcinoma cell lines are homologous to the ras genes of Harvey and Kirsten sarcoma viruses. Proceedings of the National Academy of Sciences of the USA 1982.	650
25	Bell DA. Genetic risk and carcinogen exposure: a common inherited defect of the carcinogen-metabolism gene glutathione S-transferase M1 (GSTM1) that increases susceptibility to bladder cancer. Journal of the National Cancer Institute 1993.	647
26	Mirvish SS. Role of N-nitroso compounds (NOC) and N-nitrosation in etiology of gastric, esophageal, nasopharyngeal and bladder cancer and contribution to cancer of known exposures to NOC. Cancer Letters 1995.	645
27	Harries LW. Identification of genetic polymorphisms at the glutathione S-transferase Pi locus and association with susceptibility to bladder, testicular and prostate cancer. Carcinogenesis 1997.	645
28	Taparowsky E. Activation of the T24 bladder-carcinoma transforming gene is linked to a single amino-acid change. Nature 1982.	643
29	Kaufman DS. Bladder cancer. Lancet 2009.	621
30	Chen CJ. Cancer potential in liver, lung, bladder and kidney due to ingested inorganic arsenic in drinking water. British Journal of Cancer 1992.	594

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31	Bellmunt J. Pembrolizumab as Second-Line Therapy for Advanced Urothelial Carcinoma. New England Journal of Medicine 2017.	591
32	Neal DE. Epidermal-growth-factor receptors in human bladder cancer: comparison of invasive and superficial tumours. Lancet 1985.	586
33	Babjuk M. EAU guidelines on non-muscle-invasive urothelial carcinoma of the bladder, the 2011 update. European Urology 2011.	585
34	Case RA. Tumours of the urinary bladder in workmen engaged in the manufacture and use of certain dyestuff intermediates in the British chemical industry. I. The role of aniline, benzidine, alpha-naphthylamine, and beta-naphthylamine. British Journal of Industrial Medicine 1954.	572
35	Santos E. T24 human bladder carcinoma oncogene is an activated form of the normal human homologue of BALB- and Harvey-MSV transforming genes. Nature 1982.	570
36	Brown LF. Increased expression of vascular permeability factor (vascular endothelial growth factor) and its receptors in kidney and bladder carcinomas. American Journal of Pathology 1993.	568
37	Witjes JA. EAU guidelines on muscle-invasive and metastatic bladder cancer: summary of the 2013 guidelines. European Urology 2014.	563
38	Choi W. Identification of distinct basal and luminal subtypes of muscle-invasive bladder cancer with different sensitivities to frontline chemotherapy. Cancer Cell 2014.	556
39	Ploeg M. The present and future burden of urinary bladder cancer in the world. World Journal of Urology 2009.	554
40	Madersbacher S. Radical cystectomy for bladder cancer today--a homogeneous series without neoadjuvant therapy. Journal of Clinical Oncology 2003.	541
41	Sternberg CN. Methotrexate, vinblastine, doxorubicin, and cisplatin for advanced transitional cell carcinoma of the urothelium. Efficacy and patterns of response and relapse. Cancer 1989.	539

42	Hall MC. Guideline for the management of nonmuscle invasive bladder cancer (stages Ta, T1, and Tis): 2007 update. Journal of Urology 2007.	538
43	Botteman MF. The health economics of bladder cancer: a comprehensive review of the published literature. Pharmacoeconomics 2003.	538
44	Spruck CH. Two molecular pathways to transitional cell carcinoma of the bladder. Cancer Research 1994.	538
45	Kirkali Z. Bladder cancer: epidemiology, staging and grading, and diagnosis. Urology 2005.	533
46	Cartwright RA. Role of N-acetyltransferase phenotypes in bladder carcinogenesis: a pharmacogenetic epidemiological approach to bladder cancer. Lancet 1982.	533
47	Smith AH. Marked increase in bladder and lung cancer mortality in a region of Northern Chile due to arsenic in drinking water. American Journal of Epidemiology 1998.	526
48	Bubenik J. Established cell line of urinary bladder carcinoma (T24) containing tumour-specific antigen. International Journal of Cancer 1973.	525
49	Babjuk M. EAU Guidelines on Non-Muscle-invasive Urothelial Carcinoma of the Bladder: Update 2016. European Urology 2017.	519
50	Babjuk M. EAU guidelines on non-muscle-invasive urothelial carcinoma of the bladder. European Urology 2008.	515
51	Cappellen D. Frequent activating mutations of FGFR3 in human bladder and cervix carcinomas. Nature Genetics 1999.	514
52	Perotte P. Anti-epidermal growth factor receptor antibody C225 inhibits angiogenesis in humantransitional cell carcinoma growing orthotopically in nude mice. Clinical Cancer Research 1999.	509
53	Mohandas J. Low activities of glutathione-related enzymes as factors in the genesis of urinary bladder cancer. Cancer Research 1984.	509
54	Gottardo F. Micro-RNA profiling in kidney and bladder cancers. Urological Oncology: seminars and original investigations 2007.	508

55	Sylvester RJ. A single immediate postoperative instillation of chemotherapy decreases the risk of recurrence in patients with stage Ta T1 bladder cancer: a meta-analysis of published results of randomized clinical trials. Journal of Urology 2004.	504
56	Logothetis CJ. A prospective randomized trial comparing MVAC and CISCA chemotherapy for patients with metastatic urothelial tumors. Journal of Clinical Oncology 1990.	485
57	Goldfarb M. Isolation and preliminary characterization of a human transforming gene from T24 bladder carcinoma cells. Nature 1982.	484
58	Sternberg CN. Preliminary results of M-VAC (methotrexate, vinblastine, doxorubicin and cisplatin) for transitional cell carcinoma of the urothelium. Journal of Urology 1985.	483
59	Lamm DL. Incidence and treatment of complications of bacillus Calmette-Guerin intravesical therapy in superficial bladder cancer. Journal of Urology 1992.	473
60	Sarkis AS. Nuclear overexpression of p53 protein in transitional cell bladder carcinoma: a marker for disease progression. Journal of the National Cancer Institute 1993.	471
61	Jewett HJ. Infiltrating carcinoma of the bladder; relation of depth of penetration of the bladder wall to incidence of local extension and metastases. Journal of Urology 1946.	464
62	Gui Y. Frequent mutations of chromatin remodeling genes in transitional cell carcinoma of the bladder. Nature Genetics 2011.	459
63	Hopman AH. In situ hybridization as a tool to study numerical chromosome aberrations in solid bladder tumors. Histochemistry 1988.	457
64	Balar AV. Atezolizumab as first-line treatment in cisplatin-ineligible patients with locally advanced and metastatic urothelial carcinoma: a single-arm, multicentre, phase 2 trial. Lancet 2017.	447
65	Sidransky D. Clonal origin of bladder cancer. New England Journal of Medicine 1992.	445

66	Abol-Enein H. Neoadjuvant chemotherapy in invasive bladder cancer: update of a systematic review and meta-analysis of individual patient data. European Urology 2005.	443
67	Herr HW. Impact of the number of lymph nodes retrieved on outcome in patients with muscle invasive bladder cancer. Journal of Urology 2002.	443
68	Bajorin DF. Long-term survival in metastatic transitional-cell carcinoma and prognostic factors predicting outcome of therapy. Journal of Clinical Oncology 1999.	443
69	Zhong S. Relationship between the GSTM1 genetic polymorphism and susceptibility to bladder, breast and colon cancer. Carcinogenesis 1993.	443
70	Lamm DL. A randomized trial of intravesical doxorubicin and immunotherapy with bacille Calmette-Guérin for transitional-cell carcinoma of the bladder. New England Journal of Medicine 1991.	442
71	Garcia-Closas M. NAT2 slow acetylation, GSTM1 null genotype, and risk of bladder cancer: results from the Spanish Bladder Cancer Study and meta-analyses. Lancet 2005.	440
72	Stenzl A. Treatment of muscle-invasive and metastatic bladder cancer: update of the EAU guidelines. European Urology 2011.	433
73	Shariat SF. Outcomes of radical cystectomy for transitional cell carcinoma of the bladder: a contemporary series from the Bladder Cancer Research Consortium. Journal of Urology 2006.	428
74	Esrig D. p53 nuclear protein accumulation correlates with mutations in the p53 gene, tumor grade, and stage in bladder cancer. American Journal of Pathology 1993.	427
75	Davies B. Levels of matrix metalloproteases in bladder cancer correlate with tumor grade and invasion. Cancer Research 1993.	419
76	Bellmunt J. Phase III trial of vinflunine plus best supportive care compared with best supportive care alone after a platinum-containing regimen in patients with advanced transitional cell carcinoma of the urothelial tract. Journal of Clinical Oncology 2009.	418

77	International Collaboration of Trialists. International phase III trial assessing neoadjuvant cisplatin, methotrexate, and vinblastine chemotherapy for muscle-invasive bladder cancer: long-term results of the BA06 30894 trial. Journal of Clinical Oncology 2011.	417
78	Lewis JD. Risk of bladder cancer among diabetic patients treated with pioglitazone: interim report of a longitudinal cohort study. Diabetes Care 2011.	410
79	Rodel C. Combined-modality treatment and selective organ preservation in invasive bladder cancer: long-term results. Journal of Clinical Oncology 2002.	410
80	Antoni S. Bladder Cancer Incidence and Mortality: A Global Overview and Recent Trends. European Urology 2017.	405
81	Herr HW. Surgical factors influence bladder cancer outcomes: a cooperative group report. Journal of Clinical Oncology 2004.	405
82	Fearon ER. Loss of genes on the short arm of chromosome 11 in bladder cancer. Nature 1985.	392
83	Cookson MS. The treated natural history of high risk superficial bladder cancer: 15-year outcome. Journal of Urology 1997.	390
84	Abol-Enein H. Neoadjuvant chemotherapy in invasive bladder cancer: a systematic review and meta-analysis. Lancet 2003.	389
85	Chan KS. Identification, molecular characterization, clinical prognosis, and therapeutic targeting of human bladder tumor-initiating cells. Proceedings of the National Academy of Sciences of the USA 2009.	389
86	Sternberg CN. M-VAC (methotrexate, vinblastine, doxorubicin and cisplatin) for advanced transitional cell carcinoma of the urothelium. Journal of Urology 1988.	388
87	Vlahou A. Development of a novel proteomic approach for the detection of transitional cell carcinoma of the bladder in urine. American Journal of Pathology 2001.	387

88	Skinner DG. The role of adjuvant chemotherapy following cystectomy for invasive bladder cancer: a prospective comparative trial. Journal of Urology 1991.	383
89	Brausi M. Variability in the recurrence rate at first follow-up cystoscopy after TUR in stage Ta T1 transitional cell carcinoma of the bladder: a combined analysis of seven EORTC studies. European Urology 2002.	380
90	Althausen AF. Non-invasive papillary carcinoma of the bladder associated with carcinoma in situ. Journal of Urology 1976.	378
91	Saxman SB. Long-term follow-up of a phase III intergroup study of cisplatin alone or in combination with methotrexate, vinblastine, and doxorubicin in patients with metastatic urothelial carcinoma: a cooperative group study. Journal of Clinical Oncology 1997.	369
92	Sharma P. Nivolumab in metastatic urothelial carcinoma after platinum therapy (CheckMate 275): a multicentre, single-arm, phase 2 trial. Lancet Oncology 2017.	362
93	James ND. Radiotherapy with or without Chemotherapy in Muscle-Invasive Bladder Cancer. New England Journal of Medicine 2012.	361
94	Sternberg CN. Randomized phase III trial of high-dose-intensity methotrexate, vinblastine, doxorubicin, and cisplatin (MVAC) chemotherapy and recombinant humangranulocyte colony-stimulating factor versus classic MVAC in advanced urothelial tract tumors: European Organization for Research and Treatment of Cancer Protocol no. 30924. Journal of Clinical Oncology 2001.	360
95	Mao L. Molecular detection of primary bladder cancer by microsatellite analysis. Science 1996.	359
96	Sanchez-Carbayo M. Defining molecular profiles of poor outcome in patients with invasive bladder cancer using oligonucleotide microarrays. Journal of Clinical Oncology 2006.	357
97	Dyrskjot L. Identifying distinct classes of bladder carcinoma using microarrays. Nature Genetics 2003.	357

98	van Rhijn BWG. Recurrence and Progression of Disease in Non–Muscle-Invasive Bladder Cancer: From Epidemiology to Treatment Strategy. European Urology 2009.	354
99	Talar-Williams C. Cyclophosphamide-induced cystitis and bladder cancer in patients with Wegener granulomatosis. Annals of Internal Medicine 1996.	354
100	Raghavan D. Biology and management of bladder cancer. New England Journal of Medicine 1990.	352

Table 2. Journals in which the top 100 most cited articles were published, ranked according to number with corresponding impact factor at time of review

Title	2018 Impact Factor	Number of manuscripts in the top 100	Total number of citations
Journal of Urology	5.647	15	8171
Journal of Clinical Oncology	28.245	14	9211
European Urology	17.298	13	7787
Nature	43.07	9	7589
New England Journal of Medicine	70.67	8	4842
Lancet	59.102	7	4215
American Journal of Pathology	3.762	3	1382
Cancer Research	8.378	3	1466
Nature Genetics	25.455	3	1330
Carcinogenesis	4.004	2	1088
Journal of the National Cancer Institute	10.211	2	1118
Proceedings of the National Academy of Sciences of the USA	9.58	2	1039
Science	41.037	2	1169
American Journal of Epidemiology	4.473	1	526
Annals of Internal Medicine	19.315	1	354
British Journal of Cancer	5.416	1	594
British Journal of Industrial Medicine (since renamed Occupational and Environmental Medicine)	3.556	1	572
Cancer	6.102	1	539
Cancer Cell	23.916	1	556
Cancer Letters	6.508	1	645
Cell	36.216	1	792

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Clinical Cancer Research	8.911	1	509
Diabetes Care	15.27	1	410
Histochemistry (since renamed Histochemistry and Cell Biology)	2.64	1	457
International Journal of Cancer	4.982	1	525
Lancet Oncology	35.386	1	362
Pharmacoeconomics	2.265	1	538
Urological Oncology: seminars and original investigations	2.863	1	508
Urology	1.861	1	533
World Journal of Urology	2.761	1	554

Table 3. Citation rate of top 10 articles

Citation rate rank	Original rank	Citation rate	First Author	Senior Author	Title	Corresponding author institution	Country
1	8	399.7	Rosenberg JE	Dreicer R	Atezolizumab in patients with locally advanced and metastatic urothelial carcinoma who have progressed following treatment with platinum-based chemotherapy: a single-arm, multicentre, phase 2 trial	Memorial Sloan-Kettering Cancer Centre	USA
2	31	295.5	Bellmunt J	Bajorin DF	Pembrolizumab as Second-Line Therapy for Advanced Urothelial Carcinoma	Dana-Farber Cancer Institute	USA
3	49	259.5	Babjuk M	Zigeuner R	EAU Guidelines on Non-Muscle-invasive Urothelial Carcinoma of the Bladder: Update 2016	Charles University	Czech Republic
4	4	256.2	Weinstein JN	Eley G	Comprehensive molecular characterization of urothelial bladder carcinoma	Cancer Genome Research Atlas Network	USA
5	5	246.6	Powles T	Vogelzang NJ	MPDL3280A (anti-PD-L1) treatment leads to clinical activity in metastatic bladder cancer	Barts Experimental Cancer Medicine Centre	UK
6	64	223.5	Balar AV	Bajorin DF	Atezolizumab as first-line treatment in cisplatin-ineligible patients with locally advanced and metastatic urothelial carcinoma: a single-arm, multicentre, phase 2 trial	New York University Langone Medical Center	USA
7	80	202.5	Antoni S	Bray F	Bladder Cancer Incidence and Mortality: A Global Overview and Recent Trends	International Agency for Research on Cancer	France
8	92	181	Sharma P	Galsky MD	Nivolumab in metastatic urothelial carcinoma after platinum therapy	MD Anderson Cancer Center	USA

					(CheckMate 275): a multicentre, single-arm, phase 2 trial		
9	12	135.2	Babjuk M	Roupret M	EAU guidelines on non-muscle-invasive urothelial carcinoma of the bladder: update 2013	Charles University	Czech Republic
10	1	125.4	Stein JP	Skinner DG	Radical cystectomy in the treatment of invasive bladder cancer: Long-term results in 1,054 patients	University of Southern California	USA