

Michael A. O'Donnell, MD, FACS

Last Updated Saturday, 08 November 2008

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External sites from Expert M.A.O'Donnell, U of Iowa-

Bladder Cancer Research Institute

Biologic Therapy in Bladder Carcinoma

BCG+Interferon Alpha for Superficial Bladder Cancer: Physician's protocol

Projects in Knowledge: New Prospects in the Treatment of Superficial Bladder Cancer.

To learn more about Dr. O'Donnell and the work he is doing for bladder cancer: National Bladder Cancer Research Foundation

{/niftybox}Associate Professor

Director of Urologic Oncology

Associate Professor, University of Iowa Department of Urology

Dr. O'Donnell is a frequent CME course speaker and a prominent regional and national lecturer.

Clinical Expertise

Urology, Urologic Oncology, BCG and Immunotherapy for Bladder Cancer, Cystectomy, Chemotherapy

Research and Clinical Interests

Development of recombinant BCG for bladder cancer immunotherapy (U.S. patents, 1997, 1999)

Mechanism of anti-cancer action of BCG and cytokines

Role of FAS in mediating cancer apoptosis

Use of phage display peptides for bladder cancer targeting

Dr. O'Donnell has been a member of several medical organizations and presently serves the American Association of Immunologists, the Society for Biological Therapy, and Society of Basic Urologic Research, among others. He is a reviewer for many of the major urologic and cancer research journals and a frequent contributor as well. A board certified urologist, Dr. O'Donnell specializes in the full spectrum of bladder cancer care, from early detection to treatment and bladder reconstruction. He is currently lead investigator on two national clinical trials. His major research interests include the development of recombinant BCG for bladder cancer immunotherapy; mechanism of anti-cancer action of

BCG and cytokines; the role of FAS in mediating cancer apoptosis, and the use of phage display derived peptide ligands for cancer targeting. Dr. O'Donnell has received several US patents for his work.

Education

1979— Northwestern University, BA

1984— Duke University School of Medicine, MD

Postgraduate Training

1985-87— Surgery Internship, Brigham and Women's Hospital

1987-91— Urology Residency, Harvard Program in Urology

1991-93— Fellowship, Beth Israel Hospital and Whitehead Institute of Biomedical Research

Academic Positions

1985-91— Fellow, Surgery, Harvard Medical School

1991-97— Instructor, Surgery, Harvard Medical School

1991-93— Associate in Surgery (Urology), Brigham and Women's Hospital

1991-93— Consultant Urologist, West Roxbury Veteran's Administration Hospital

1991-97— Assistant Urologist, Harvard University Health Services

1993-96— Associate in Surgery (Urology), Beth Israel Hospital

1996-00— Associate in Surgery (Urology), Beth Israel Deaconess Medical Center

1997-00— Consultant Urologist, Harvard University Health Services

1997-00— Assistant Professor, Surgery, Harvard Medical School

2000— Associate Professor, University of Iowa Department of Urology

Affiliations and Offices Held

American Medical Association

American Urological Association

American Association for Cancer Research

American Society for Microbiology

Society for Basic Urologic Research

American College of Surgeons

1993-00— Director, Urologic Laparoscopic Surgery, Beth Israel Hospital

1998-00— Member, Beth Israel Deaconess Cancer Center

1999-00— Director, Beth Israel Deaconess Medical Center Bladder Cancer Center

2000— Member, Holden Comprehensive Cancer Center

Honors

Edwin Beer Foundation Research Award

Fulbright/German Academic Exchange Service, Foreign Study Scholar

Alpha Omega Alpha, Duke University

American Foundation for Urologic Disease Scholar

Selected Peer Reviewed Publications

Konety BR, Dhawan V, Allareddy V, O'Donnell MA: Association between volume and charges for most frequently performed ambulatory and nonambulatory surgery for bladder cancer: is more cheaper? J Urol 2004;172:1056-61.

O'Donnell MA, Lilli K, Leopold C; National Bacillus Calmette-Guerin/Interferon Phase 2 Investigator Group: Interim results from a national multicenter phase ii trial of combination bacillus calmette-guerin plus interferon alfa-2b for superficial bladder cancer. J Urol 2004;172:888-93.

Joudi FN, O'Donnell MA: Second-line intravesical therapy versus cystectomy for bacille Calmette-Guerin (BCG) failures. Curr Opin Urol 2004;14:271-5.

Luo Y, Yamada H, Chen X, Ryan AA, Evanoff DP, Triccas JA, O'Donnell MA: Recombinant Mycobacterium bovis bacillus Calmette-Guerin (BCG) expressing mouse IL-18 augments Th1 immunity and macrophage cytotoxicity. Clin Exp Immunol 2004;137:24-34.

Ludwig AT, Moore JM, Luo Y, Chen X, Saltsgaver NA, O'Donnell MA, Griffith TS: Tumor necrosis factor-related apoptosis-inducing ligand: a novel mechanism for Bacillus Calmette-Guerin-induced antitumor activity. Cancer Res 2004;64:3386-90.

Arnold J, de Boer EC, O'Donnell MA, Bohle A, Brandau S: Immunotherapy of experimental bladder cancer with recombinant BCG expressing interferon-gamma. *J Immunother* 2004;27:116-23.

O'Donnell MA, Luo Y, Hunter SE, Chen X, Hayes LL, Clinton SK: The essential role of interferon-gamma during interleukin-12 therapy for murine transitional cell carcinoma of the bladder. *J Urol* 2004;171:1336-42.

O'Donnell MA, Luo Y, Hunter SE, Chen X, Hayes LL, Clinton SK: Interleukin-12 immunotherapy of murine transitional cell carcinoma of the bladder: dose dependent tumor eradication and generation of protective immunity. *J Urol* 2004;171:1330-5.

Nadler R, Luo Y, Zhao W, Ritchey JK, Austin C, Cohen MB, O'Donnell MA, Ratliff TL: Augmentation of *Mycobacterium bovis* bacillus Calmette-Guerin (BCG)-induced antitumor activity by enhancing delayed type hypersensitivity (DTH). *Clin Exp Immunol* 2003;131:206-16.

Luo Y, Chen X, O'Donnell MA: Role of Th1 and Th2 cytokines in bacillus Calmette-Guerin (BCG)-induced IFN-gamma production: cytokine promotion and simulation of BCG effect. *Cytokine* 2003;21:17-26.

Lam JS, Benson MC, O'Donnell MA, Sawczuk A, Gavazzi A, Wechsler M, Sawczuk IS: Bacillus Calmette-Guerin plus interferon alfa 2B intravesical therapy maintains an extended treatment plan for superficial bladder cancer with minimal toxicity. *Urol Oncol* 2003;21: 354-60.

Weiss GR, O'Donnell M, Loughlin K, Dillman K, Laliberte R, Sherman M: A phase I study of the intravesical administration of recombinant human interleukin-12 in patients with recurrent superficial transitional cell carcinoma of the bladder. *J Immunother* 2003;26:343-8.

Young S, O'Donnell M, Lockhart E, Buddle B, Slobbe L, Luo Y, DeLisle G, Buchan G: Manipulation of immune responses to *Mycobacterium bovis* by vaccination with IL-2 and IL-18 secreting recombinant BCG. *Immunol Cell Biol* 2002;80:209-15.

Young SL, O'Donnell MA, Buchan GS: IL-2-secreting recombinant bacillus Calmette Guerin can overcome a type 2 immune response and corticosteroid-induced immunosuppression to elicit a type 1 immune response. *Int Immunol* 2002;7:793-800.

He J, Shen D, O'Donnell MA, Chan HR: Induction of MUC1-specific cellular immunity by a recombinant BCG expressing human MUC1 and secreting IL2. *Int J Oncol* 2002;20:1305-11.

Luo Y, Chen X, Han R, O'Donnell MA: Recombinant bacille Calmette-Guerin (BCG) expressing human interferon-alpha 2B demonstrates enhanced immunogenicity. *Clin Exp Immunol* 2001;123:264-70.

O'Donnell, MA, Krohn J, DeWolf WC: Salvage intravesical therapy with interferon-alfa 2B plus low dose BCG is effective in patients with superficial bladder cancer previously failing BCG alone. *J Urol* 2001;166:1300-5.

Maranchie JK, Bouyounes BT, Zhang PL, O'Donnell MA, Summerhayes IC, DeWolf WC: Clinical and pathological characteristics of micropapillary transitional cell carcinoma: a highly aggressive variant. *J Urol* 2000;163:748-751.

Pavlovich CP, Kraling BM, Stewart RJ, Chen X, Bochner BH, Luster AD, Poppas DP, O'Donnell MA: BCG-induced urinary cytokines inhibit microvascular endothelial cell proliferation. *J Urol* 2000;163:2014-2021.

Luo Y, Chen X, Szilvasi A, O'Donnell MA: Co-expression of interleukin-2 and green fluorescent protein reporter in mycobacteria: in vivo application for monitoring antimycobacterial immunity. *Mol Immunol* 2000;37:527-36.

Luo Y, Chen X, Downs T, DeWolf WC, O'Donnell MA: Interferon-alfa 2B enhances BCG-induced T helper type one responses in patients undergoing intravesical immunotherapy. *J Immunol* 1999;162:2399-2405.

Slobbe L, Lockhart E, O'Donnell MA, Mackintosh C, Buchan G: An in vivo comparison of BCG and cytokine secreting BCG vaccines. *Immunology* 1999;96:517-523.

Luo Y, Chen X, Han R, Chorev M, DeWolf WC, O'Donnell MA: Mutated ras p21 as a target for cancer therapy in mouse transitional cell carcinoma (TCC). *J Urol* 1999;162:1519-1526.

O'Donnell MA, Luo Y, Chen X, Szilvasi A, Hunter SE, Clinton SK: Role of IL-12 in the induction and potentiation of IFN-gamma in response to Bacillus Calmette-Guérin (BCG). *J Immunol* 1999;163:4246-4252.

Jackson AM, Ivshina AV, Senko O, Kuznetsova A, Sundan A, O'Donnell MA, Clinton S, Alexandroff AB, Selby PJ, James K, Kuznetsov VA. Prognosis of bacillus Calmette-Guerin therapy of superficial bladder cancer by immunological urinary measurements: Statistically weighted syndromes analysis. *J Urol* 1998;159:1054-63

Poppas DP, Folkman J, Pavlovich CP, Voest E, Chen X, Luster AD, O'Donnell MA: Intravesical BCG induces the

anti-angiogenic chemokine IP-10. *Urology* 1998;52:268-76.

Chen L, Chen D, Block E, O'Donnell MA, Kufe DW, Clinton SK: Eradication of murine bladder carcinoma by intratumor injection of a bicistronic adenoviral vector carrying cDNAs for the IL-12 heterodimer and its inhibition by the IL-12 p40 subunit homodimer. *J Immunol* 1997;159:351-9.

Downs TM, Szilvasi A, O'Donnell MA: Pharmacological biocompatibility between intravesical preparations of BCG and interferon- α 2B. *J Urol* 1997;158:2311-15.

Fujimoto T, O'Donnell MA, Szilvasi A, Yang H, Duda RB: Bacillus Calmette-Guerin plus IL-2 and/or GM-CSF enhances immunocompetent cell production of interferon- γ , which inhibits B16F10 melanoma cell growth in vitro. *Cancer Immunol Immunother* 1996;42:280-4.

Luo Y, Szilvasi A, Chen X, DeWolf WC, O'Donnell MA: A novel method for monitoring *Mycobacterium bovis* BCG trafficking using recombinant BCG expressing green fluorescent protein. *Clin Diag Lab Immunol* 1996;3:761-8.

O'Donnell MA, Aldovini A, Duda RB, Yang H, Young R, DeWolf, WC: Recombinant *Mycobacterium bovis* BCG secreting functional interleukin-2 enhances gamma interferon production by splenocytes. *Infect Immun* 1994;62:2508-14.

Recent Abstracts

Yamada H, Luo Y, O'Donnell MA. Differential chemokine expression by bladder cancer as a potential regulator of local immunotherapeutic responses. *J Urol* 2002;167(4 suppl):115, no. 458.

Yamada H, Luo Y, O'Donnell MA. IFN- γ up-regulates toll-like receptor 4 functions and cooperates with LPS to produce MDC and IP-10 in human bladder cancer cell line RT4. *J Urol* 2002;167(4 suppl):7, no. 29.

Luo Y, Chen X, O'Donnell MA. Recombinant BCG expressing IL-18 enhances immune responses to mycobacterium and foreign immunogen. *J Urol suppl* 2002;167(4 suppl):115, no. 460.

O'Donnell MA, Hartman K, National Phase II BCG/IFN- α Investigator Group. An evaluation of BCG plus interferon- α -2B toxicity in a national multicenter phase II trial. *J Urol* 2002;167(4 suppl):188, no. 760.

Lam JS, Benson MC, O'Donnell MA, Sawczuk A, Gavazzi A, Wechsler M, Sawczuk IS. Bacillus Calmette-Guerin plus interferon alfa 2B intravesical therapy maintains an extended treatment plan for superficial bladder cancer with minimal toxicity. *J Urol* 2002;167(4 suppl):190, no. 765.

O'Donnell MA, Lilli K, Leopold C. Interim results from a national multicenter phase II trial of combination BCG plus interferon-alfa-2B for superficial bladder cancer. *J Urol* 2003;169(4 suppl):256, no. 993.

O'Donnell MA, Evanoff D, Luo Y. Studies on gemcitabine as an intravesical agent for superficial bladder cancer. *J Urol* 2003;169(4 suppl):131, no. 508.

Luo Y, Chen X, O'Donnell MA. Use of PSA to measure tumor growth in an orthotopic bladder cancer model. *J Urol* 2003;169(4 suppl):131, no. 505.

Luo Y, Yamada H, Chen X, O'Donnell MA. Recombinant BCG expressing IL-18 (IL-18 rBCG) enhances macrophage cytotoxicity against mouse bladder cancer cell line MBT-2 in vitro. *J Urol* 2003;169 (4 suppl):128, no. 496.

Selected Book Chapters

O'Donnell MA. Bladder cancer, TCC, superficial (CIS, Ta, T1). In Gomella and Dambro, eds., *5 Minute Urology Consult*. Baltimore: Williams & Wilkins, 2000.

O'Donnell MA. Intravesical therapy. In Kursh and Ulchaker, eds., *Office Urology*. Totowa, NJ: Humana Press, Inc., 2000.

O'Donnell MA. Use of Intravesical BCG in treatment of superficial bladder cancer. In: Droller, ed., *Bladder Cancer: Current Diagnosis and Treatment*. Totowa NJ: Humana Press Inc., 2001.

O'Donnell MA. Superficial bladder cancer. In Furie, Cassileth, Atkins, Mayer, eds., *Clinical Hematology and Oncology: Presentation, Diagnosis, and Treatment*. Philadelphia: Churchill Livingstone, 2003.

O'Donnell MA, Burns J. Intravesical BCG in treatment and prophylaxis of urothelial bladder cancer. In Droller, ed., *Urothelial Cancer: American Cancer Society Atlas of Clinical Oncology*. Hamilton Ontario: BC Decker, Inc., 2003.