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Proteomic patterns of colonic mucosal and submucosal tissues delineates crohn's colitis and ulcerative colitis

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Abstract

Purpose: Although Crohn's colitis (CC) and ulcerative colitis (UC) share several clinical features, they have different causes, mechanisms of tissue damage, and treatment options. Therefore, the accurate diagnosis is of paramount importance in terms of medical care. The distinction between UC/CC is made on the basis of clinical, radiologic, endoscopic, and pathologic interpretations but cannot be differentiated in up to 15% of IBD patients. Correct management of this "indeterminate colitis" (IC) depends on the accurate diagnosis.

Experimental design: We have developed a proteomic methodology that has the potential to discriminate between UC/CC. The histologic layers of 99-confirmed UC/CC tissues were analyzed using MALDI-MS for proteomic profiling.

Results: Eight-protein-signatures differentiated UC/CC. These signals are independent of the tissue of origin and represent potential disease specific markers. Some of these signatures are primarily found in the colonic mucosa and would be amenable to proteomic interrogation from endoscopic biopsies. Others are primarily submucosal and have the potential to become amenable to proteomic studies in the serum. Some protein-signatures were found in both two layers.

Conclusion/Clinical relevance: This information may provide new-avenues for the development of novel evidenced personalized therapeutic targets.

Biography

Amosy E. M'Koma is an Assistant Professor of Biochemistry and Cancer Biology at Meharry Medical College and Adjunct Assistant Professor of Surgery at Vanderbilt University School of Medicine. He got Ph.D in 2001 from Karolinska Nobel Institute, Sweden (Surgery) and Postdoctoral Fellow in 2007 from Vanderbilt University, U.S.A (Urologic Surgery). He is also Member of Vanderbilt-Ingram Cancer Center, Vanderbilt University, 2004-present