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New Cancer Paradigm Proposed on the Origin of Cancer

Björn Brücher, M.D. and Ijaz Jamall, Ph.D., published in the journal, BioMed Central Cancer

Norfolk, Va. (May 19, 2014) – Bon Secours researcher and surgical oncologist Björn Brücher, M.D., Ph.D., F.A.C.S, and Ijaz Jamall, Ph.D., D.A.B.T. of Risk-Based Decisions, Inc., Sacramento, CA, have recently been published in the peer-reviewed journal BMC Cancer, a new hypothesis for the origin of cancer, entitled “Epistemology of the Origin of Cancer: A New Paradigm.” The article proposes that until recently it was thought that some 5 to 10 percent of cancers are triggered by hereditary mutations; 10 to 15 percent are caused by infectious agents and the remaining 80 percent of cancers have an unknown cause.

“We believe that in the majority of cancers mutagenic changes are either a secondary phenomenon occurring alongside the cancer or later events that occur during the development of cancers,” said Brücher. “This is significant when we consider that currently 90 percent of funding for cancer research is devoted to approximately five to 10 percent of cancers.”

Brücher and Jamall propose that the majority of cancers originate in a sequence of six steps: (1) A pathogenic stimulus (biological or chemical) leads at first to a normal reaction seen in wound healing, namely, inflammation. When the inflammatory stimulus persists, is too great or too prolonged, the healing process is unsuccessful, and that results in (2) chronic inflammation.

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When chronic inflammation persists (3) fibrosis develops. The fibrosis, with its ongoing alteration of the cellular microenvironment creates (4) a precancerous niche resulting in a chronically stressed cellular matrix. In such a situation, the organism deploys (5) a chronic stress escape strategy. If this attempt fails to resolve the precancerous state, then (6) a normal cell is transformed into a cancerous cell.

“The new cancer paradigm challenges the major assumptions of how cancer begins and what triggers it,” says Jamall. “We have made so little progress in terms of life extension typically measured in weeks or months and, perhaps more importantly, the quality of that extended life.”

The authors propose that, after 85 years of searching for genetic sources of cancers it is now time to shift to a new paradigm and suggest concentrating research efforts on the nearly 80% of cancer cases which are of “unknown etiology.” If the hypothesis is proven, it could spell out a sequence of steps to prevent or, at a minimum, delay the progression of many cancers.

The original manuscript is entitled “*Epistemology of the Origin of Cancer: A New Paradigm*,” and is online available at BMC CANCER: www.biomedcentral.com/1471-2407/14/331/abstract. *BMC Cancer* is an open access, peer-reviewed journal that considers articles on all aspects of cancer research, including the pathophysiology, prevention, diagnosis and treatment of cancers.

Enclosures: head shots

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About Dr. Björn Brücher

Björn L.D.M. Brücher, M.D., Ph.D., F.A.C.S., is a member of the Bon Secours Virginia Cancer Institute Surgical Oncology & Division Cancer Research team and is the medical director of the PSM Center of Excellence, leading the Division of Cancer Research. He heads the Theodor-Billroth-Academy®, which offers new ideas related to education, training and research and is a Fellow of INCORE - International Consortium of Research Excellence of the TBA®. Brücher’s surgical oncology expertise focuses on esophageal, gastric cancer as well as in peritoneal carcinomatosis (multivisceral resections plus HIPEC). His research focus is on all different aspects of cancer as well as the clarification of the underlying mechanism of carcinogenesis and tumor spread. Björn Brücher was recently invited to

serve as a member of the panel of experts of “Upper Gastrointestinal Cancer” for the new edition of the American Joint Cancer Committee.

About Dr. Ijaz S. Jamall

Ijaz S. Jamall, Ph.D., D.A.B.T. is president and principal scientist with Risk-Based Decisions, Inc., in Sacramento, California. He is also a fellow with INCORE - International Consortium of Research Excellence of the Theodor-Billroth-Academy®. For the past seven years he has been the director of research at Xeroderma Pigmentosum Family Support Group. His research interests are focused on the underlying mechanisms of disease and he is committed to bringing the latest in scientific research to the clinic by collaborating with physicians and scientists across the world.

About Bon Secours Virginia Health System

Bon Secours Virginia Health System (BSV), the fourth-largest and only faith-based health system in Virginia, is comprised of Bon Secours Richmond and Bon Secours Hampton Roads. BSV includes seven award-winning hospitals: four in Richmond and three in Hampton Roads. Bon Secours brings together an expanding network of hospitals, primary care practices, ambulatory care sites and continuing care facilities to provide high-quality health care and wellness services to thousands of Virginians. The not-for-profit Catholic health system employs nearly 12,000 people. Bon Secours Virginia hospitals offer a full range of services, including cardiac, women’s, children’s, orthopaedics, emergency services, oncology, neurosciences and surgery.