



Colonix Medical Ltd
One Jermyn Street
London SW1Y 4UH UK

Colonix Medical Ltd
Hackspettsv. 14
SE-16765 Bromma
Sweden

Colonix Laboratories
Babraham Research Institute
Meditrina building
Cambridge CB22 3AT UK

www.colonixmedical.com

Abstract: BIT's World Cancer Congress 2008, Shanghai
June 13th, Session 24.

Analysis of cell exfoliation in the colon as a novel approach to colorectal cancer screening.

Alexandre LOKTIONOV

Colonix Medical Ltd., Cambridge, United Kingdom

Cell exfoliation in the human colon is a poorly investigated physiological process that undergoes a dramatic enhancement in malignant colorectal tumours. It has recently been shown that quantities of DNA isolated from exfoliated colonic cells obtained by direct collection from the surface of rectal mucosa of colorectal cancer (CRC) patients are in most cases considerably higher than in healthy individuals. Comparative assessment of measurements performed using PicoGreen staining and human-specific real-time PCR showed that both intact DNA from well preserved cells and fragmented DNA from apoptotic and necrotic cells contribute to the difference, the abundance of damaged cells being a characteristic feature of malignancies. Rarely observed heavy faecal contamination of samples strongly interfered with the test results, but introduction of simple dietary precautions appeared to considerably decrease contamination risk.

These initial findings resulted in the development of a simple and efficient new approach to CRC screening and early diagnosis. Preliminary results of three clinical trials in the UK indicate that sensitivity of the new test for detecting proximal and distal colon tumours (if splenic flexure was accepted as the demarcation point) was in the ranges of 0.66 - 0.87 and 0.85 - 0.96 respectively, whereas specificity over 0.70 was observed in all three trials. The results look highly promising and can be further improved by refining cell collection procedure and material analysis. The high sensitivity of this simple method, especially in detecting notoriously difficult proximal tumours, allows expecting that the new approach can provide a good solution for mass population screening for CRC.