

## Can targeted/metabolic therapy outperform standard chemotherapy for Breast cancer in the post-op adjuvant setting? *In vitro* live cell analysis and clinical correlation in a Breast cancer patient

**Akbar Khan**  
Medicor Cancer Centres Inc., Canada

The diabetes drug metformin has been extensively researched as an anticancer therapy. Existing data suggests it may have a role in prevention and also in treatment, as an adjuvant to other therapies. In a recent publication (*Individualizing Chemotherapy using the Anti-Diabetic Drug, Metformin, as an "Adjuvant": An Exploratory Study. J Cancer Sci Ther 5:120-125.*) Khan and Bradford demonstrated the potential widespread role of metformin in cancer treatment using human cells *in vitro*. Metformin was also shown to potentiate the metabolic therapy dichloroacetate.

A 51 year old patient with intraductal breast carcinoma requested ChemoFit™ live cell chemo sensitivity testing at the time of lumpectomy. Based on this, it was determined that a combination of metformin + dichloroacetate outperformed various standard chemotherapy cocktails approved breast cancer treatment (in terms of % cell kill). The patient was treated with oral dichloroacetate + metformin for 3 months. The patient developed moderate peripheral neuropathy from the dichloroacetate and the therapy was otherwise well-tolerated. MainTrac™ circulating tumor cell counts were taken pre- and post-treatment. The patient achieved a surprising result: A reduction of circulating tumor cell count from 1050 cells per cc of blood to 50 cells per cc of blood (a 21x reduction). There was no nausea/vomiting, infection, hair loss, marrow injury, hepatic injury or renal injury, due to the non-toxic nature of the therapy.

The routine use of ChemoFit™ assay, testing non-toxic drugs (e.g. metformin, dichloroacetate) alongside conventional chemotherapies, has the potential to revolutionize post-operative adjuvant therapy of breast and other cancers.

### Biography

Akbar Khan completed his MD in 1992, and obtained certification in Family Medicine in 1994 (University of Toronto). His primary practice for the last 20 years has consisted of palliative medicine. Seven years ago he found the first private integrated cancer center of its kind in Canada (Medicor Cancer Centres Inc), and since 2007 he has researched and successfully used several non-toxic off-label cancer therapies. He has treated over 1300 patients with dichloroacetate and is now using the diabetes drug metformin extensively as an adjuvant to chemotherapy and other anticancer drugs. He has 3 publications in peer-reviewed journals to date.

akhan@medicorcancer.com