Asim Rizvi

OSU Research Summary, March 1, 2015

My work at the Ohio State University is based on how ovarian cancer stem cells respond to Vitamin D. The metabolically active form of Vitamin D is known as calcitriol. Using calcitriol as an inducer, we have shown that ovarian cancer stem cells differentiate to ovarian epithelial cells, like cells. This means that they lose the molecular characteristics which make them cancer stem cells. Differentiation of cancer stem cells has been a long standing goal in cancer research. Cancer stem cells are the cells which make cancer reoccur in patients, they have also been shown to play a role in chemotherapy resistance in ovarian cancer. My studies at the moment are backed by two sets of animal studies, where we have shown that both in vitro and in vivo calcitriol treatment leads to reduction in absolute numbers of cancer stem cells. I am currently at the stage of working out the molecular mechanisms which operate to differentiate cancer stem cells to ovarian epithelial cells, like cells. We propose that the Vitamin D Receptor, an intracellular target of calcitriol would be playing a major role to induce and/or maintain the differentiated state of ovarian cancer cells.

Also, during the time that I spent here at Ohio State, I published two peer reviewed research articles (on my research carried out at the Aligarh Muslim University). These were picked up by an American website which broadcasts recent advances in clinical sciences and makes them available to clinicians.

http://www.mdlinx.com/internal-medicine/news-article.cfm/5844030/cancer-calcitriol-copper-cell-death-ros

http://www.mdlinx.com/internal-medicine/news-article.cfm/5733630/

In my nonexistent free time, I practice Dressage (an equestrian discipline) on a show horse that I have leased. I plan to show my skills at a few upcoming horse shows around Columbus and hopefully take a few horse riding medals with my MEd PhD degree back to India.