

### **WCM-Q Grand Rounds explores anti-cancer side-effects of diabetes drug**

**Doha – March 28, 2017:** The possible anti-aging and anti-cancer effects of the most widely used diabetes medication in the world were discussed at the latest installment of Weill Cornell Medicine-Qatar's (WCM-Q) Grand Rounds.

Dr. Chris Triggles, Professor of Pharmacology at WCM-Q, summarized the research into the potentially beneficial side-effects of metformin, a synthetically manufactured drug that has been in use for over 60 years as a treatment for type-2 diabetes. It is estimated that more than 150 million people around the world use metformin every day.

In type-2 diabetes, the body either does not produce enough insulin or the body's cells do not respond adequately to insulin, which is responsible for controlling blood sugar levels. Metformin is an oral medication that helps to keep blood sugar levels under control by improving insulin sensitivity.

Speaking at WCM-Q to an audience of fellow health professionals, Dr. Triggles said: "Metformin is the 'first choice' medication for treatment of type-2 diabetes because it is very effective, it is very inexpensive, and its side-effects are generally not severe. Indeed, there is evidence that suggests metformin may actually have some beneficial side-effects, such as anti-aging and anti-cancer properties, as well as protecting against cardiovascular disease."

Studies of type-2 diabetes patients receiving metformin showed a statistically significant reduced incidence of cancer and improved survival rates among those who did get cancer.

Dr. Triggles explained that the beneficial side-effects of the drug appeared to be related to its capacity to affect the function of the body's endothelial cells, which line the interior surfaces of blood vessels. The endothelial cells play a key role in supporting the growth of new blood vessels in tumors, and metformin appears to interfere with this process. Dr. Triggles also spoke about some of his own research into a protein called Sirtuin 1, which is encoded by a gene called SIRT1 known to be involved in the aging process. Metformin appears to interact with the SIRT1 gene and interrupt the aging process. This interaction also appears to slow the deterioration of the cardiovascular system.

Research conducted in Dr. Triggles's laboratory at WCM-Q has been published in some of the world's most important medical journals, including the *British Journal of Pharmacology*.

Dr. Triggles said: "The side-effects of metformin are not yet fully understood, but it is clear that there are a number of very promising avenues for further research which could one day lead to novel applications for the medication."

Dr. Stephen Atkin, Professor of Medicine at WCM-Q, said: "Dr. Triggles's research is helping us gain a better understanding of this very important medication and its potential uses beyond its current scope. This is extremely exciting and promising work that could have a very positive effect on human health in future."



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Photos captions:

Dr. Chris Triggie, a leading researcher at WCM-Q, spoke about the possible anti-cancer and anti-aging effects of a common medication for type-2 diabetes at WCM-Q's Grand Rounds.

### **About Weill Cornell Medicine - Qatar**

Weill Cornell Medicine - Qatar is a partnership between Cornell University and Qatar Foundation. It offers a comprehensive six-year medical program leading to the Cornell University M.D. degree with teaching by Cornell and Weill Cornell faculty and by physicians at Hamad Medical Corporation (HMC), Aspetar Orthopedic and Sports Medicine Hospital, the Primary Health Care Corporation, the Feto Maternal Center, and the Sidra Medical and Research Center who hold Weill Cornell appointments. Through its biomedical research program, WCM-Q is building a sustainable research community in Qatar while advancing basic science and clinical research. Through its medical college, WCM-Q seeks to provide the finest education possible for medical students, to improve health care both now and for future generations, and to provide high quality health care to the Qatari population.

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