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PIONEERING SURGEON TO TRIAL NEW CANCER TREATMENT IN CUMBRIA

A new tumour-targeting technology that is promising major advances in the treatment of bladder cancer and other malignant conditions is later this year to be trialled by one of the UK's leading medical pioneers in the field.

Mr. Jaswant Mom, a consultant urological surgeon based at the Cumberland Infirmary and West Cumberland Hospital, expects to lead the innovative research project with “carefully selected” patients within the next few months.

“We are confident that this will bring about a revolution in photodynamic treatment of bladder cancer patients endoscopically,” he said.

Consultants working in other surgical and medical specialties at other hospital centres – including Newcastle, Durham and Liverpool – will be working closely with the team in the Cumbrian trial as well as conducting their own clinical experiments.

The innovative treatment is based on a novel, water soluble photoactive pigment, SingloTex, that is deposited endoscopically on to the diseased tissue and which is then activated by light of a specific wavelength to produce a cytotoxic form of oxygen that has the ability to destroy the diseased cells.

Photodynamic therapy (PDT), as the procedure is known, is a universally accepted and successful form of treatment for a range of cancers but, until now, it had been limited because the pigment – a class of dyes called phthalocyanines – has been hydrophobic or water insoluble making it difficult to transport it across cell membranes.

“SingloTex technology has succeeded in solving the water solubility problem with a unique chemistry that allows the photoactive pigment to be deposited directly into internal diseased tissue where, when activated by light, it produces a high yield of singlet oxygen that can

destroy the cancer,” said its inventor, former British scientist Barry Noar now living in California.

“As a form of treatment PDT has several important and unique features including the selective accumulation of the pigment in the diseased cells, minimal damage to adjacent healthy cells, minimal general side effects to the therapy itself and the fact that it can be performed on an outpatient basis.”

Mr Noar, who developed numerous compounds for therapeutic use during his years at ICI Pharmaceuticals (now Astra Zeneca), recently joined forces with a UK biotech company, BioActive Environmental Technologies Ltd. of Nottingham, to form a new Anglo-American enterprise, Singlobet, which is now working closely with the North Cumbria University Hospital Trust.

“The trials about to start in Cumbria with the SingloTex molecule represent a real breakthrough in the treatment of bladder and other cancers,” said Stephen Darren Magee, Head of Medical Engineering at the University Hospital Trust and the man who has designed and developed with European Biomedical Engineering colleague Francisco Soriano, the world’s first Disposable Modular Endoscopic Technology, (Dimoen).

“We intend to use advanced endoscopic techniques to deposit, activate and monitor the treatment of bladder tumours. This method will completely eradicate cross infection in endoscopy and that will be an absolutely fantastic achievement by our medical engineering colleagues.

“Along with the proposed suction biopsy device, this new endoscope will change the face of non-invasive surgery as we know it and not just in urology but across all endoscopic procedures.

“This is a very exciting non-invasive technology that has a dual role. In addition to its therapeutic properties, the SingloTex pigment functions as a contrast medium, selectively identifying and treating disease by providing enhanced visualisation, resolution and therapy.

“It is a safe pharmaceutical-grade photoactive pigment that not only promises to produce major advances in the treatment of bladder cancer but it also has an extensive array of other

uses with potential significant benefits for the health and welfare of both humans and animals in addition to benefits for the environment in which we live.”

Mr Magee said that the research team now about to undertake the bladder cancer trial had been greatly encouraged by clinical research already conducted by Singlobet and its associates which had demonstrated the pigment’s effectiveness in the treatment of skin cancer and other dermatological conditions, including warts, psoriasis and nail fungus.

Over and above its clinical uses, he said that the photoactive pigment represented a “step change” as a disinfectant in that it could be deposited on a vast range of surfaces permanently destroying any harmful bacteria or microbes that came into contact with it.

As such, he said, it had a major role to play in producing antibacterial/antimicrobial fabrics for a broad spectrum of products where infection could present a serious health hazard. This could include: hospital bedding, operating theatre drapes, biohazard suits and gloves and so-called “accessible” baby clothing that could be prone to picking up infection through handling during treatment procedures.

SingloTex has been registered in its own right with the UK’s Medicines and Healthcare Products Regulatory Agency and registration with the Federal Drugs Administration (FDA) in the US is expected to follow shortly, said Mr Magee.

At the end of the Cumbrian trial, Mr Mom, whose areas of clinical expertise include prostate cancer surgery as well as bladder tumours, intends to publish a peer review paper that, it is hoped, will lead to the use of SingloTex for the treatment of selected patients in other hospitals worldwide.

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