

EARLY DETECTION OF BLADDER CANCER BY FLUORESCENCE IMAGING

Background

Currently the bladder cancer is diagnosed by analysing the urinary cells and by performing a cystoscopy. Usually this examination is triggered when the patient sees blood in its urine.

A chemical developed at CHUV (urology service of the CHUV, directed by the Professor Patrice Jichlinski) and EPFL (Medical Photonics group directed by Prof Hubert van den Bergh; development under the supervision of Dr MER Georges Wagnières) allows much earlier detection. This chemical was licensed to Photocure, a Norwegian company, which developed a product based on it. The said product recently received the FDA approval for marketing in the US. Cystoscopy performed with this compound (known as Hexvix® in Europe and Cysview(TM) in the US) as an adjunct to the conventional white-light cystoscopy, improves the detection of bladder cancer and reduces the rate of early tumour recurrence after fluorescence-guided resection, compared with white-light cystoscopy alone.

The solution containing hexyl aminolevulinate is injected in the bladder about one hour before the examination in order to allow the substance to be metabolised by the malignant cells.



This process is triggering the emission of fluorescence in malignant cells. The bladder is then examined with an endoscopic camera and lighted with a blue-violet light. This allows as well the monitoring of possible positive malignant cells remaining after the surgery for the tumour removal.

This method is now commercialized since three years by Photocure in Scandinavia and GE Healthcare in the rest of the world. In Europe, it is reimbursed by the medical insurances. Royalties are since then cashed in by the institutions. Possible other types of cancer could be diagnosed in the future using this approach is saying Prof Hubert van den Bergh.

