The Lancet Oncology Publishes Details of UroGen Pharma's Pivotal OLYMPUS Trial

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- *59% Complete Response in patients with low-grade upper tract urothelial cancer*
- *Kaplan-Meier analysis, based on interim data, estimated 12-month durability at 84%*
- *Results supported recent U.S. FDA expedited approval of Jelmyto ™ as the first non-surgical treatment for patients with this difficult-to-treat cancer*

PRINCETON, N.J.--(BUSINESS WIRE)--Apr. 30, 2020-- UroGen Pharma Ltd. (Nasdaq: URGN) today announced *The Lancet Oncology* published results from the pivotal Phase 3 OLYMPUS trial, reporting that 59% of low-grade upper tract urothelial cancer (LG-UTUC) patients treated with UGN-101, now referred to as *Jelmyto* ™ (mitomycin) for pyelocalyceal solution, achieved a Complete Response (CR). Additionally, in the publication, durability at 12 months (based on interim data) was estimated to be 84% by Kaplan-Meier analysis.[1]

Jelmyto consists of mitomycin, an established chemotherapy, and sterile hydrogel, using UroGen's proprietary sustained release RTGel™ technology. It has been designed to enable longer exposure of urinary tract tissue to mitomycin, thereby enabling the treatment of tumors by non-surgical means. *Jelmyto* is indicated for the treatment of adult patients with low-grade upper tract urothelial cancer (LG-UTUC). It is contraindicated in patients with perforation of the bladder or upper urinary tract.

"The current approach to treating low-grade upper tract urothelial cancer includes multiple endoscopic surgeries, high risk of disease recurrence and for many patients, the eventual removal of a kidney, which can present a whole new set of challenges that can adversely impact long-term health," said Seth Lerner, M.D., FACS, Professor of Urology at Baylor College of Medicine in Houston, TX and Principal Investigator of the OLYMPUS trial. "Data from the OLYMPUS trial suggest UGN-101 is associated with a higher than expected initial complete response rate and strong durability without additional endoscopic surgery, which represents significant progress for patients living with this rare and difficult-to-treat type of cancer."

LG-UTUC is a rare cancer that develops in the lining of the upper urinary tract, ureters and kidneys. In the U.S., there are approximately 6,000 - 7,000 new or recurrent LG-UTUC patients annually. It is a challenging condition to treat due to the complex anatomy of the urinary tract system. The current standard of care includes multiple surgeries, and most patients require a radical nephroureterectomy, which includes the removal of the renal pelvis, kidney, ureter and bladder cuff.[2] Treatment is further complicated by the fact that LG-UTUC is most commonly diagnosed in patients over 70 years of age, who may already have compromised kidney function and may suffer further complications as a result of major surgery.

In the pivotal OLYMPUS trial, participants received six once-weekly instillations of *Jelmyto* via retrograde catheter in the renal pelvis and calyces. The intent-to-treat (ITT) population included the seventy-one patients who received at least one dose of *Jelmyto*; 48% of these patients had tumors that were deemed endoscopically unresectable. As reported in *The Lancet Oncology* publication, *Jelmyto* achieved a Complete Response (CR) in 59% of the ITT population (a CR was defined as negative 3-month ureteroscopic evaluation, negative cytology and negative for cause biopsy) and durability at 12 months (at the time of the data cutoff) was estimated to be 84% by Kaplan-Meier analysis.

"The positive results of the OLYMPUS trial demonstrate that *Jelmyto* has the potential to help fulfill a significant unmet need for patients with low-grade upper tract urothelial cancer," said Dr. Mark P. Schoenberg, Chief Medical Officer at UroGen. "We are committed to addressing treatment challenges for this underserved patient population and to improving the standard of care for those who need it most."

As reported in *The Lancet Oncology* publication, in the trial, 67 patients (94%) experienced adverse events (AEs) and 60 patients (85%) had AEs that were considered to be related to the study treatment or procedure. No treatment-related deaths occurred. Overall, the most frequently reported AEs were ureteric stenosis in 31 (44%) of 71 patients, urinary tract infection in 23 (32%), haematuria in 22 (31%), flank pain in 21 (30%), and nausea in 17 (24%).

The U.S. Food and Drug Administration (FDA) approved *Jelmyto* on April 15, 2020. The FDA-approved labeling for *Jelmyto* reports Complete Response (CR) (primary endpoint) of 58% in the intent-to-treat population. The product labeling also reports that at the 12-month time point for assessment of durability, 19 patients remained in CR, seven had experienced recurrence of disease, nine patients continued to be followed for the 12-month duration of response, and median duration of response was not reached as of the FDA-approval date.

About the Phase 3 OLYMPUS Trial

OLYMPUS (Optimized DeLivery of Mitomycin for Primary UTUC Study) is an open-label, single-arm Phase 3 clinical trial of UGN-101, *Jelmyto* (mitomycin) for pyelocalyceal solution, to evaluate the safety, tolerability and tumor ablative effect of *Jelmyto* in patients with low-grade UTUC. Seventy-one patients were treated at clinical sites across the United States and Israel. Study participants were treated with six weekly instillations of *Jelmyto* administered via a standard catheter. Four to six weeks following the last instillation, patients underwent a Primary Disease Evaluation (PDE) to determine Complete Response (CR), the primary endpoint of the study. PDE involved a ureteroscopy and wash cytology, a standard microscopic test of cells obtained from the urine to detect cancer and for cause biopsy. Patients who achieved a CR at the PDE timepoint were then followed for up to 12 months to determine the durability of response with *Jelmyto*.

About *Jelmyto* ™

Jelmyto (mitomycin) for pyelocalyceal solution, is a drug formulation of mitomycin indicated for the treatment of adult patients with low-grade upper tract urothelial cancer (LG-UTUC). Utilizing the RTGel™ technology platform, UroGen's proprietary sustained release, hydrogel-based formulation, *Jelmyto* is designed to enable longer exposure of urinary tract tissue to mitomycin, thereby enabling the treatment of tumors by non-surgical means. *Jelmyto* is delivered to patients using standard ureteral catheters or nephrostomy tube. The U.S. FDA previously granted Orphan Drug, Fast Track, and Breakthrough Therapy Designations to *Jelmyto* for the treatment of LG-UTUC. On April 15, 2020, the FDA approved *Jelmyto,* making it the first

drug approved for the treatment of LG-UTUC in adult patients.

About Upper Tract Urothelial Cancer (UTUC)

Urothelial cancer is the ninth most common cancer globally and the eighth most lethal neoplasm in men in the U.S. Between five percent and ten percent of primary urothelial cancers originate in the ureter or renal pelvis and are collectively referred to as upper tract urothelial cancers (UTUC). In the U.S., there are approximately 6,000 - 7,000 new or recurrent low-grade UTUC patients annually. Most cases are diagnosed in patients over 70 years old, and these older patients often face comorbidities. There are limited treatment options for UTUC, with the most common being endoscopic surgery or nephroureterectomy (removal of the entire kidney and ureter). These treatments can lead to a high rate of recurrence and relapse.

IMPORTANT SAFETY INFORMATION

You should not receive JELMYTO if you have a hole or tear (perforation) of your bladder or upper urinary tract.

Before receiving JELMYTO, tell your healthcare provider about all your medical conditions, including if you:

- are pregnant or plan to become pregnant. JELMYTO can harm your unborn baby. You should not become pregnant during treatment with JELMYTO. Tell your healthcare provider right away if you become pregnant or think you may be pregnant during treatment with JELMYTO.
  Females who are able to become pregnant: You should use effective birth control (contraception) during treatment with JELMYTO and for 6 months after the last dose.
  Males being treated with JELMYTO: If you have a female partner who is able to become pregnant, you should use effective birth control (contraception) during treatment with JELMYTO and for 3 months after the last dose.
- are breastfeeding or plan to breastfeed. It is not known if JELMYTO passes into your breast milk. Do not breastfeed during treatment with JELMYTO and for 1 week after the last dose.
- **Tell your healthcare provider if you take water pills (diuretic).**

How will I receive JELMYTO?

- Your healthcare provider will tell you to take a medicine called sodium bicarbonate before each JELMYTO treatment.
- You will receive your JELMYTO dose from your healthcare provider 1 time a week for 6 weeks. It is important that you receive all 6 doses of JELMYTO according to your healthcare provider's instructions. If you miss any appointments, call your healthcare provider as soon as possible to reschedule your appointment. Your healthcare provider may recommend up to an additional 11 monthly doses.
- JELMYTO is given to your kidney through a tube called a catheter.
- During treatment with JELMYTO, your healthcare provider may tell you to take additional medicines or change how you take your current medicines.

After receiving JELMYTO:

- JELMYTO may cause your urine color to change to a violet to blue color. Avoid contact between your skin and urine for at least 6 hours.
- To urinate, **males and females should sit** on a toilet and flush the toilet several times after you use it. After going to the bathroom, wash your hands, your inner thighs, and genital area well with soap and water.
- Clothing that comes in contact with urine should be washed right away and washed separately from other clothing.

JELMYTO may cause serious side effects, including:

- **Swelling and narrowing of the tube that carries urine from the kidney to the bladder (ureteric obstruction).** If you develop swelling and narrowing, and to protect your kidney from damage, your healthcare provider may recommend the placement of a small plastic tube (stent) in the ureter to help the kidney drain. Tell your healthcare provider right away if you develop side pain or fever during treatment with JELMYTO.
- **Bone marrow problems.** JELMYTO can affect your bone marrow and can cause a decrease in your white blood cell, red blood cell, and platelet counts. Your healthcare provider will do blood tests prior to each treatment to check your blood cell counts during treatment with JELMYTO. Your healthcare provider may need to temporarily or permanently stop JELMYTO if you develop bone marrow problems during treatment with JELMYTO.

The most common side effects of JELMYTO include: side pain, urinary tract infection, blood in your urine, kidney problems, tiredness, nausea, stomach pain, trouble with urination, vomiting, low red blood cell count, frequent urination, itching, chills, and fever.

Please see JELMYTO Full Prescribing Information, including the Patient Information at www.jelmyto.com.

About UroGen Pharma Ltd.

UroGen is a biopharmaceutical company dedicated to building novel solutions that treat specialty cancers and urologic diseases because patients deserve better options. UroGen has developed RTGel™ reverse-thermal hydrogel, a proprietary sustained release, hydrogel-based platform technology that has the potential to improve therapeutic profiles of existing drugs. UroGen's sustained release technology is designed to enable longer exposure of the urinary tract tissue to medications, making local therapy a potentially more effective treatment option. UroGen's approved *Jelmyto* ™ (mitomycin) for pyelocalyceal solution, and pipeline treatment UGN-102 (mitomycin) for intravesical solution are designed to ablate tumors by non-surgical means and to treat several forms of non-muscle invasive urothelial cancer, including low-grade upper tract urothelial cancer and low-grade non-muscle invasive bladder cancer, respectively. UroGen is headquartered in Princeton, NJ with operations in Israel. Visit www.urogen.com to learn more or follow us on Twitter, @UroGenPharma.

Forward-Looking Statements

This press release contains forward-looking statements as that term is defined in the Private Securities Litigation Reform Act of 1995, including, without limitation: the potential of *Jelmyto*™to transform the treatment of LG-UTUC; the potential of UroGen's proprietary RTGel™ technology platform to improve therapeutic profiles of existing drugs; the potential of UGN-102 for LG NMIBC. These statements are subject to a number of risks, uncertainties and assumptions, including, but not limited to: the timing and success of clinical trials and potential safety and other complications thereof; the ability to obtain regulatory approval within the timeframe expected, or at all; the ability to maintain regulatory approval; complications associated with achieving commercial readiness for the launch of a new product; the labeling for any approved product; the scope, progress and expansion of developing and commercializing UroGen's product candidates; the size and growth of the market(s) therefor and the rate and degree of market acceptance thereof vis-à-vis alternative therapies; UroGen's ability to attract or retain key management, members of the board of directors and personnel; and any negative effects on UroGen's business and product development plans caused by or associated with COVID-19. In light of these risks and uncertainties, and other risks and uncertainties that are described in the Risk Factors section of UroGen's Form 10-K filed with the SEC on March 2, 2019, and other filings that UroGen makes with the SEC from time to time (which are available at http://www.sec.gov), the events and circumstances discussed in such forward-looking statements may not occur, and UroGen's actual results could differ materially and adversely from those anticipated or implied thereby. Any forward-looking statements speak only as of the date of this press release and are based on information available to UroGen as of the date of this release.

References:

1. Lerner, Seth. Primary chemoablation of low-grade upper tract urothelial carcinoma using UGN-101, a mitomycin-containing reverse thermal gel (OLYMPUS): a prospective single-arm phase 3 trial. The Lancet Oncology, 2020
2. Browne BM, Stensland KD, Moynihan MJ, Canes D. An Analysis of Staging and Treatment Trends for Upper Tract Urothelial Carcinoma in the National Cancer Database. Clin Genitourin Cancer 2018;16:e743-e50.

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