

IMPORTANT WARNINGS AND PRECAUTIONS USING PHOTOFRIN® INCLUDE:

Gastroesophageal Fistula and Perforation: Do not initiate PHOTOFRIN with photodynamic therapy (PDT) in patients with esophageal tumors eroding into the trachea or bronchial tree or bronchial wall.

Pulmonary and Gastroesophageal Hemorrhage: Assess patients for tumors eroding into a pulmonary blood vessel and esophageal varices. Do not administer light directly to an area with esophageal varices.

High-Grade Dysplasia (HGD) in Barrett's Esophagus (BE): After treatment of HGD in BE, conduct endoscopic biopsy surveillance every 3 months, until 4 consecutive negative evaluations for HGD have been recorded.

Photosensitivity and Ocular Photosensitivity: Observe precautions to avoid exposure of skin and eyes to direct sunlight or bright indoor light for at least 30 days. Instruct patients when outdoors to wear dark sunglasses which have an average light transmittance of <4% for at least 30 days and until ocular sensitivity resolves.

Use Before or After Radiotherapy: Allow 2-4 weeks between PDT and subsequent radiotherapy.

Chest Pain: Substernal chest pain can occur.

Airway Obstruction and Respiratory Distress: Administer with caution to patients with tumors in locations where treatment-induced inflammation can obstruct the main airway. Monitor patients closely between the laser light therapy and the mandatory debridement bronchoscopy for any evidence of respiratory distress.

Esophageal Strictures: Esophageal strictures can occur.

Hepatic and Renal Impairment: Patients with hepatic or renal impairment may need longer precautionary measures for photosensitivity.

Thromboembolism: Thromboembolic events can occur.

Embryo-Fetal Toxicity: May cause embryo-fetal toxicity. Advise females of reproductive potential of the potential risk to a fetus and to use effective contraception.

MOST COMMON ADVERSE REACTIONS reported during clinical trials (>10% of patients) are:

Esophageal Cancer: Anemia, pleural effusion, pyrexia, constipation, nausea, chest pain, pain, abdominal pain, dyspnea, photosensitivity reaction, pneumonia, vomiting, insomnia, back pain, pharyngitis.

Obstructing Endobronchial Cancer: Dyspnea, photosensitivity reaction, hemoptysis, pyrexia, cough, pneumonia.

Superficial Endobronchial Tumors: Exudate, photosensitivity reaction, bronchial obstruction, edema, bronchostenosis.

High-Grade Dysplasia in Barrett's Esophagus: Photosensitivity reaction, esophageal stenosis, vomiting, chest pain, nausea, pyrexia, constipation, dysphagia, abdominal pain, pleural effusion, dehydration.

Other photosensitizing agents may increase the risk of photosensitivity reaction. Because of the potential for serious adverse reactions in the breastfed infant, advise patients that breastfeeding is not recommended during treatment with PHOTOFRIN and for 5 months after the last dose.

Please see accompanying full Prescribing Information for PHOTOFRIN® (porfimer sodium) for Injection at: www.photofrin.com

FOR MORE INFORMATION about PHOTOFRIN®, or if there are any questions regarding the information provided, visit www.photofrin.com or please contact the Medical Information Department at **1-866-248-2039**. You are encouraged to report negative side effects of prescription drugs to the FDA. Visit www.fda.gov/medwatch, or call **1-800-FDA-1088**.

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Curative Treatment of Squamous Carcinoma In Situ When Surgery is Declined

Courtesy of Scott C. Parrish MD

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Patient History

This is a 67-year-old gentleman who has a history of smoking approximately 1 pack per day for 40 years. He was seen by his primary care provider and a lung cancer screening was ordered. The lung cancer screening demonstrated some mild emphysema as well as a possible endobronchial mass within the left mainstem bronchus. The patient denied any significant shortness of breath, coughing, or wheezing. He very rarely had some sputum production in the morning. He exercised on daily basis and did not have significant respiratory limitations. He denied any hemoptysis or weight loss. He had no personal history of cancer but his father had a history of lung cancer. Additionally, his brother had a history of a lung mass, however the pathology was not known. The patient was actively trying to quit smoking and had cut back to 8 cigarettes per day. He was not on any inhaled bronchodilator therapy. He was not on any anti-platelet agents or anticoagulants. He did have a colon surgery and did not have any problems with anesthesia.

Examination

GENERAL APPEARANCE: Patient is well nourished, well developed, well groomed, and in no acute distress. Alert & oriented X 3.

HEENT (head, eyes, ears, nose, throat): Sclera anicteric, conjunctiva quiet, external ears and nose grossly normal, lips, mouth, and throat are unremarkable, pupils equal, round, reactive to light and accommodation, extraocular movements intact, mallampati 3 oropharynx.

NECK: Neck supple, no adenopathy, no thyromegaly, no masses.

LYMPH: No abnormalities noted in anterior cervical, submandibular and supraclavicular.

SKIN: No visible or palpable abnormalities, warm and dry, facial skin intact without erythema or breakdown, good color, no cyanosis and no clubbing.

RESPIRATORY: Normal respiratory effort. No accessory muscles use. Lungs are clear to auscultation without wheezes/crackles/rales.

CARDIOVASCULAR: Regular rate and rhythm, normal S1, S2, no murmurs, rubs, or gallops, no peripheral edema. **MUSCULOSKELETAL:** Symmetrical, normal musculature, normal gait and posture.

NEUROLOGIC: Oriented X 3, gait and station are normal, no gross motor or sensory deficits.

PSYCHIATRIC: Patient affect is appropriate, oriented X 3, mood is appropriate, adequate judgment and insights and memory is grossly intact.

Diagnostic Evaluation

He underwent a bronchoscopy on February 2, 2020. There was no lesion in the left mainstem and the findings on the CT scan were felt to be due to mucus. The left upper lobe, however, had abnormal appearing mucosa. This was also abnormal under narrow band imaging. Biopsies were conducted demonstrating squamous cell carcinoma in situ.

See important prescribing and safety information for PHOTOFRIN® (porfimer sodium) for Injection on pages 3 and 4.

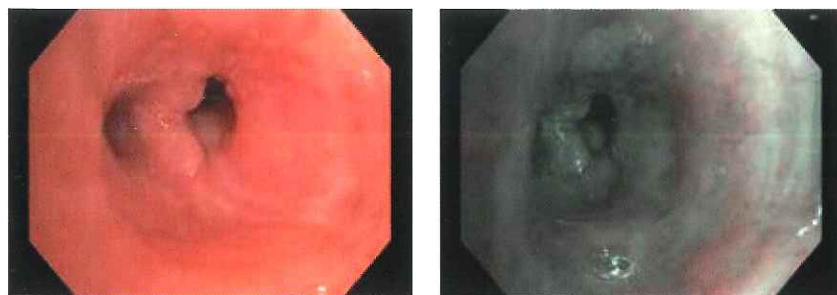


Figure 1a (left) – Bronchoscopy and Figure 1b (right) – bronchoscopy pretreatment taken on February 2, 2020

Course of Treatment

The patient was seen by Oncology and decided that despite his good lung function he would not want to go through surgery or radiation therapy. The patient received 2mg/kg IV infusion of Photofrin (porfimer sodium) for injection, and a bronchoscopy with photodynamic therapy was scheduled 3 days after injection. On March 23rd, 2020, he underwent bronchoscopy and we performed photodynamic therapy using a 1 cm flexible fiber optic diffuser. The laser was applied for 250 seconds (100J) on each side of the carina of the left upper lobe.

Fiberoptic Diffuser Selection

Fiber Type	Flexible Fiberoptic Diffuser
Fiber Length	1 cm
Fiber Placement	Adjacent

Bronchoscopy & Light Application

First Light Application, Total Dosimetry	200J/cm x 8 minutes 20 seconds
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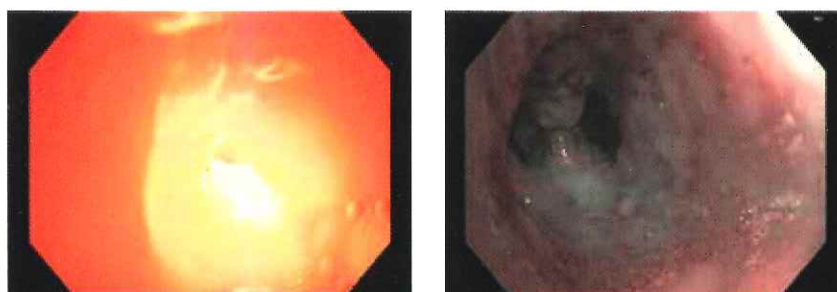


Figure 2a (left) – Bronchoscopy with PDT using 1 cm fiber optic diffuser and Figure 2b (right) – after PDT procedure March 23, 2020

He then returned for a follow-up procedure 3 days later. The necrotic tumor was removed with endobronchial forceps.



Figure 3 – Follow-up bronchoscopy 2 days after PDT treatment on March 25, 2020.

He was going to have a follow-up bronchoscopy 3 months later, but was delayed. He had a follow-up procedure 4 months later, on July 20, 2020. During that procedure the previously treated area had very smooth appearing mucosa. We did perform biopsies that only demonstrated normal respiratory epithelium. Another follow-up bronchoscopy was performed on October 26, 2020 and repeat biopsies again demonstrated no evidence of squamous cell carcinoma in situ. The patient will undergo a repeat surveillance bronchoscopy in January 2021 with a plan to repeat 3 month bronchoscopies for one year followed by 6 month bronchoscopies for one year.



Figure 4 – Follow up bronchoscopy on July 20, 2020

Clinical Outcomes

No evidence of squamous cell carcinoma recurrence after treatment with photodynamic therapy. He will continue to undergo surveillance bronchoscopies.

Discussion

This is an example of the ability to treat squamous cell carcinoma in situ with photodynamic therapy with curative intent. This approach is very reasonable for patients as an alternative to surgery and/or radiation therapy.

PHOTOFRIN® (porfimer sodium) for Injection Indications

Palliation of patients with completely obstructing esophageal cancer, or of patients with partially obstructing esophageal cancer who, in the opinion of their physician, cannot be satisfactorily treated with Nd:YAG laser therapy.

Treatment of microinvasive endobronchial non-small cell lung cancer (NSCLC) in patients for whom surgery and radiotherapy are not indicated.

Reduction of obstruction and palliation of symptoms in patients with completely or partially obstructing endobronchial NSCLC.

Ablation of high-grade dysplasia (HGD) in Barrett's esophagus (BE) patients who do not undergo esophagectomy.

Important Safety Information About PHOTOFRIN® (porfimer sodium) for Injection

PHOTOFRIN® should not be used in patients with porphyria, existing tracheoesophageal or bronchoesophageal fistula, tumors eroding into a major blood vessel, emergency treatment of patients with severe acute respiratory distress caused by an obstructing endobronchial lesion because 40 to 50 hours are required between injection of PHOTOFRIN® and laser light treatment, and esophageal or gastric varices or esophageal ulcers >1 cm in diameter.