

Photodynamic Therapy for Extramammary Paget's Disease: 5 Cases Report

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ABSTRACT

Objective: To study the therapeutic effect of photodynamic therapy for extramammary Paget's disease. **Methods:** DIOMED 630 nm diode laser was used as light source and photofrin as photosensitizer. The patient's lesion was irradiated for 24–72 h after administrating of photofrin. The power density was 100–150 mW/cm² and energy density was 150–300J/cm². Dosage of photofrin was 2 mg/kg. **Results:** Lesion darkened 24 h after irradiation and formed a scar 96–120 h after irradiation. One patient's lesion disappeared, three patients' lesion diminished apparently and one patient's lesion was not controlled 3 months later. **Conclusion:** Photodynamic therapy is an effective modality for extramammary Paget's disease.

Key words: Paget's disease; Photodynamic therapy; Photosensitizer; Laser

Extramammary Paget's Disease (EMPD) is a rare cutaneous carcinoma usually affecting middle-aged to elderly patients. Clinically, EMPD appears as well-demarcated, erythematous patches or slightly raised plaques in the genital, anorectal, or axillary areas, often accompanied by pruritus^[1]. Radcliffe Crocker first recognized and reported EMPD as a distinct clinical entity in 1889^[2]. EMPD is often misdiagnosed as dermatitis or eczema and can not be cured long-time^[1]. We used photodynamic therapy (PDT) as only modality to treat 5 cases of EMPD and the therapeutic effect is encouraging.

MATERIALS AND METHODS

Materials

Clinical Data

There were 5 cases of EMPD treated by PDT including three male patients and two female patients. Their ages were ranged from 64 to 80 y and the mean age was 74.6 y. The course of disease

ranged from 6 m to 20 y. The lesions located in scrotum, radix penis, monsveneris, labium majus and crissum respectively. The areas of foci ranged from 2.0×2.5 cm² to 10.5×14.0 cm. The foci manifested coarseness, thickening, chapping, scurf, effusion or scab and with niff. The diagnosis was confirmed by pathology examination in all cases.

Past History

One patient experienced three times surgery and his right testis was excised, but relapsed eventually after radiotherapy and local chemotherapy. One patient relapsed after CO₂ laser treatment and refused further surgery for excision of anus. One patient had no response to local chemotherapy. The other two patients only used corticosteroids and antibiotics topically and refused further surgery.

Instrument and Drug

We used 630-PDT diode laser manufactured by DIOMED Ltd. (GB) with wavelength at 630 nm and output power of 1500 mW. Treatment parameters were power density at 100–150 mW/cm² and energy density at 150–300 J/cm². Photofrin was used as photosensitizer reserved in -20°C refrigerator away from light, which was

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dressed again every 2–3 d in next 1–3 m, until the lesions were healed.

Process of Treatment

Photofrin as photosensitizer solved by 0.9% sodium chloride was given in a dose of 2 mg/kg intravenously, and then lesion was irradiated three times in 72 h after photosensitizer administration. The dose of light was adjusted according status and thickness of the lesions. If the lesions can not be covered by once irradiation, the different parts of the lesions were irradiated separately and the parts were overlapped each other at least 0.5 cm. The patients were kept away from light in next 4 w. The lesions were kept asepsis and the wounds were

RESULTS

The focus was darkening and nigrescence 24 h after irradiation. There was blister and a lot of effusion 48 h after irradiation. Effusion was decreasing in next 24 h. The lesion formed a scar and the effusion almost disappeared 96–120 h after irradiation. One month later the four patients' lesions diminished apparently and one patient's lesion still has a lot of effusion. Three month later one patient's lesion was disappeared and three patients' lesions decreased by at least 50% (Fig. 1).

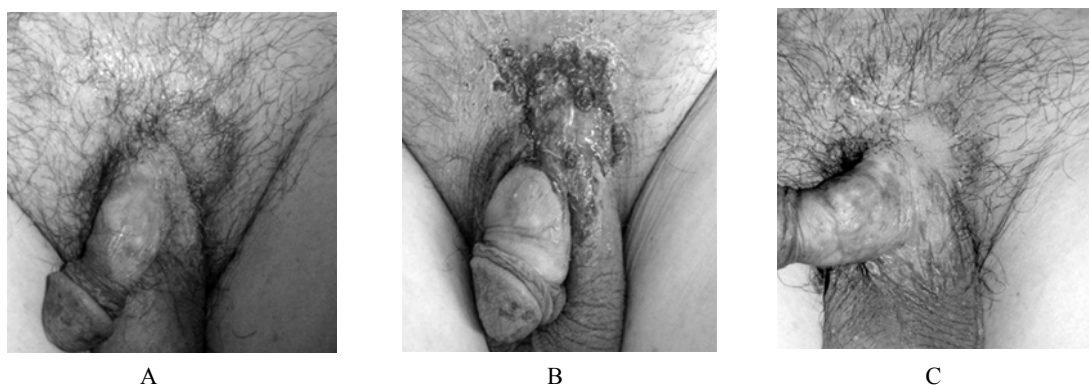


Fig. 1.

A: Before treatment B: A week after treatment C: Three months after treatment

Adverse Effects

All cases had no severe complications. No patient had myelosuppression and liver or renal function change related to PDT. Electrocardiogram was not changed after PDT.

DISCUSSION

PDT is a light activated chemotherapy. Photon is absorbed by photosensitizer which moves the photosensitizer into an excited state. The excited photosensitizer can then pass its energy to oxygen to create a chemical radical called "singlet oxygen". Singlet oxygen attacks cellular structures by oxidation. Such oxidative damage might be oxidation of cell membranes or proteins. The photosensitizer selectively accumulating in tumor cells and selectively irradiating to focus makes

PDT a highly target therapy. Because the structure of PHOTOFRIN is similar to ferroheme in human body, PHOTOFRIN has little adverse effects and patients can tolerate it very well.

EMPD is an uncommon skin malignant tumor and was often misdiagnosed as eczema or dermatitis. Some patients remain local disease for several years without metastasis. It usually presents for a long time before biopsy is performed to confirm the diagnosis. The shortest time from onset to diagnosis was 6 m and longest one was 20 y in this group. This makes many patients miss the best treatment opportunity. We should remain alert to this disease and perform biopsy timely, specially to those patients with long time uncured perineal region eczema.

The treatment of EMPD is a tough nut to crack. Because of the low morbidity no guideline based on EBM and multicenter clinical study can be followed. According to literatures surgery is the