Photoallergy

During an educational lecture at Yali Middle School, a student asked us whether patients with photo allergies could use our device. Thank you for this question.

This is a very valuable question. We forwarded this feedback to our primary PI in time. Both he and the members of the experimental team paid great attention to this question. In the end, PI led the experimental team members to conceive of an alternative to blue-induced switch, that is, drug induction. We have successfully proposed a new use plan for patients with photosensitivity.

Method:

If there are photoallergic patients: gi-gal4 and VP16 lov can also be induced by drugs.

Illumination intensity: tested. The time is 20 minutes, and the faint light of 20w can be managed for a day. It is low and efficient, and the effect is remarkable.

1. Bluray is low and efficient, and the possibility of photoallergy is very low.
2. **If a patient is allergic to light, we can recommend that the patient use drug induction instead of blue light switch.**)

At present, I have found the following literature on blue light allergy:

（1） All contents of the reported case literature:

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There are few reports of oral mucosa and systemic allergy caused by blue light, and it is rare for mothers and daughters to have allergic reaction caused by blue light at the same time. Two cases are reported.

A 45 years old female patient with anterior crown fracture caused by trauma came to the hospital for treatment. Examination: defect of proximal and middle incisional angle, no marrow exposed. Routine self-tapping and self-breaking screw fixation, disinfection, moisture isolation, drying and light curing repair. About 30 s after blue light irradiation, the upper and lower lip mucosa is hot and painful, local redness, swelling and brightness, palpitation, chest tightness, cold limbs and dyspnea. Immediately lay the patient flat and give oxygen without remission. Intravenous injection of antiallergic drugs. Gradually relieved after half an hour. The examination showed that there were several bleeding spots of rice grain size in the labial mucosa at the irradiation of blue light. The patient's daughter (19 years old) accompanied by the chair also felt dizzy when she saw the blue light. With the consent of the patient, make full preparations after 5 days, and irradiate the oral mucosa of the mother and daughter with blue light respectively. The above reactions occurred in both of them about 30 s later.

(Only 20 years ago, Shandong Binzhou Municipal Hospital reported two cases of blue light allergy. Maybe this shows that not many people are allergic to blue light in real life.)

（2） Literature on prevention of photoallergy

Prevention of photoallergy:

1. Clean the skin with clean water every day, use mild skin care products, avoid using cosmetics, reduce skin irritation and avoid aggravating skin rash. Pay attention to ventilation and proper temperature and humidity to avoid aggravation of rash infection and pruritus after skin sweating.
2. Do not dye your hair and avoid contact with chemicals that are easy to induce luminous allergy, such as dyes and tar substances.
3. Light diet, try not to eat seafood, wine, strong tea and spicy food. Avoid photosensitive foods (celery, fig, citrus fruit, mango, spinach, mud snail, lettuce, etc.).
4. Avoid sunlight. Do a good job in sunscreen when going out. You can use a sunshade or hat and wear long sleeved clothes and trousers.
5. Use dark curtains at home to avoid ultraviolet radiation. Photocopiers, projectors, electric welding, etc. can produce ultraviolet rays. Prolonged exposure can also aggravate the disease, which should be avoided as far as possible.
6. Wear cotton underwear and change it frequently to keep your skin dry. Avoid scratching to stimulate the affected area, and avoid the increase of erythema and itching caused by scratching.
7. Avoid using drugs that are easy to cause light allergy. Common photosensitive drugs include quinolones (such as oxyfluorosa, Cproxa, Noflosa, Inosa, etc.), other antibacterial drugs (such as tetracycline, sulfonamides), antipyretic and analgesic drugs (such as aspirin, ibuprofen, Qutong tablets, etc.), antihistamines (such as chlorpheniramine, diphenhydramine), hypoglycemic drugs (glibenclamide, glipizide, etc.), diazepam, phenothiazine diuretics Estrogen, pirfenidone, chlorpromazine, sodium nitroprusside, nitroglycerin, etc. If the above drugs need to be used for treatment, appropriate protective measures must be taken to avoid the damage of photosensitive reaction.
8. In case of photoallergy, stop contacting photosensitive substances immediately and go to a regular hospital for standardized treatment.

(3) One article reported a case of photoallergy caused by Levofloxacin.