Photonet
National Managed Clinical Network for Phototherapy in Scotland

Photonet National Managed Clinical Network
Photosensitising Drugs and Phototherapy Guidance

A frequent question concerns whether there is any need to take any particular action if a patient attending for phototherapy is placed on a drug that might be photosensitising (usually through a phototoxic mechanism). The issues are often complex, and need decided on an individual patient basis but there are some general considerations which might be helpful.

The type of phototherapy is relevant – most photosensitising drugs photosensitise within the ultraviolet A range. Therefore, UVA/UVA1 on its own (and if psoralen ultraviolet A [PUVA] is used without a pre-treatment minimal phototoxic dose [MPD] assessment this might sometimes be effectively UVA on its own) carries more risk when a photosensitising drug is introduced than if this happens during narrowband UVB or PUVA.

Some drugs do cause photosensitivity within the ultraviolet B range and this need considered. If PUVA with an adequate dose of psoralen (and pre-treatment MPD assessment has confirmed the dose is adequate for the individual patient) is being used, additional drug photosensitisation should rarely be an issue as the phototoxic index of oral psoralens is often over 20 whereas even highly photosensitising other drugs only rarely have a phototoxic index of 5 or above. This means that in practice the addition of a photosensitising drug to somebody who is already on PUVA will in most situations be of little importance.

Other factors that need considered apart from the type of phototherapy include the drug, possible drug interactions leading to differences in drug metabolites (it can be drug metabolites, rather than the parent drug, that cause photosensitivity) and, particularly, the dose of drug. For example, doxycycline at 100 mg daily is only occasionally photosensitising in a western European population whereas at 200 mg daily it is commonly photosensitising.

As a general rule, if a drug that might be photosensitising is started during a course of phototherapy, then if the drug course is to be short (e.g., 1 to 2 weeks) it is often best simply to withhold phototherapy during that course and, for most drugs, for 2 to 3 days thereafter to allow the drug to clear.

If the drug is initiated during a course of phototherapy and is likely to be continued for the duration of the course, then if early during the course it is often appropriate simply to go back a few doses. However, if the patient is at a high phototherapy dose and a drug likely to cause a photosensitivity problem is initiated, then repeat minimal erythema dose (MED) testing is usually appropriate to allow continuation of the phototherapy with as high a dose as is safely possible.

Listed below under each of the types of phototherapy are drugs that are commonly added during phototherapy courses but are not an issue and others that may be a concern.

Narrowband ultraviolet B

The most frequently used drugs that could potentially cause a problem are:

- Quinine
- Calcium channel blockers
- NSAIDs (although in fact real problems with photosensitivity with these are rare)
- Bendroflumethiazide and other thiazides
- Prochlorperazine
- Chlorpromazine
- Doxycycline

Drugs that are not an issue include:

- Amoxicillin
- Ampicillin
- Co-amoxiclav
- Cephalosporins
- Flucloxacillin
- Penicillin V
- Metronidazole
- Clarithromycin
- Erythromycin
- Trimethoprim
- Minocycline
- Lymecycline
- Oxytetracycline
- Morphine

Broadband ultraviolet A monotherapy (i.e. without psoralen) and ultraviolet A1

Drugs that may be an issue include:

- Doxycycline
- Quinolone antibiotics such as ciprofloxacin
- Bendroflumethiazide
- Other thiazide diuretics
- NSAIDs
- Phenothiazines (includes chlorpromazine, prochlorperazine)

Drugs that are not a concern include:

- Flucloxacillin
- Amoxicillin
- Ampicillin
- Penicillin V
- Co-amoxiclav
- Cephalosporin antibiotics
- Metronidazole
- Clarithromycin
- Erythromycin
- Trimethoprim
- Minocycline
- Lymecycline (but caution with UVA1 – stay at same dose when lymecycline started)
- Oxytetracycline
- Morphine

PUVA

As long as MPD testing has been conducted to ensure an adequate dose of psoralen, the additional effect of any other photosensitising drug is unlikely to be an issue. The main concerns with oral PUVA relate to potentially interacting drugs including theophylline, caffeine and warfarin.

Review date: June 2024

**This guideline is not intended to be construed or to serve as a standard of care. Standards of care are determined on the basis of all clinical data available for an individual case and are subject to change as scientific knowledge and technology advance and patterns of care evolve. Adherence to guideline recommendations will not ensure a successful outcome in every case, nor should they be construed as including all proper methods of care or excluding other acceptable methods of care aimed at the same results. The ultimate judgement must be made by the appropriate healthcare professional(s) responsible for clinical decisions regarding a particular clinical procedure or treatment plan. This judgement should only be arrived at following discussion of the options with the patient, covering the diagnostic and treatment choices available. It is advised, however, that significant departures from the national guideline or any local guidelines derived from it should be fully documented in the patient's case notes at the time the relevant decision is taken.*