Medical dermatology

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Introduction

Dermatologists could be confronted with over 2,000 different skin conditions in their working life ranging from neonates to the elderly including acute and chronic diseases.[1] Furthermore, these diagnoses are often not intrinsic skin disorders, sometimes being secondary to a systemic disease or its treatment, immunosuppression, or as a consequence of environmental and occupational factors. The aims of this conference were to provide an update on medical dermatology with a focus on the interface between skin disease and internal medicine.

Links with other specialists

Acute dermatology services

Implementing care closer to home has become a key government initiative with dermatology a clear target for such a move into the community. Although there are some perceived benefits it is essential that dermatologists remain readily available for the diagnosis and management of potentially life-threatening skin conditions or serious diseases which have cutaneous signs. Such conditions include toxic epidermal necrolysis, a mucocutaneous drug-induced or idiopathic reaction pattern characterised by extensive cutaneous and mucosal exfoliation, and blistering diseases of the skin for example pemphigus vulgaris or bullous pemphigoid. One of the key factors in reducing the mortality of such conditions is early diagnosis; given their relative rarity this is often difficult and is where the role of the dermatologist may prove invaluable. In patients with eczema, co-infection with the herpes simplex virus can cause a rapid deterioration in the condition of the patient; its prompt recognition, cessation of topical steroids and implementation of anti-viral therapy are essential to a good outcome. Readily available dermatological input in the acute setting will remain very important in the re-shaping of future dermatological services.

Systemic disease – referral to the dermatologist

Systemic diseases often have cutaneous manifestations, none more so than diabetes. Favourite 'MRCP associations' include necrobiosis lipoidica and granuloma annulare, although it is likely that the link with both has, in the past, been overstated with an incidence of diabetes in patients with the former of around 11%[2] and true links between diabetes and only certain sub-types of granuloma annulare.[3] Diabetic foot problems often involve endocrinologists, dermatologists and vascular surgeons and foot complications are common. Overall, 20–40% of people with diabetes have neuropathy and around the same percentage have peripheral vascular disease. Around 5% of people with diabetes may develop a foot ulcer in any year, and amputation rates are often around 0.5% per year. Where neuropathy and ischaemia lead to ulceration (especially with poor glucose control), the foot can become infected, often with polymicrobial invasion, and it may need to be amputated if the infection is not managed appropriately. All these factors require timely input from the relevant physician and are now subject to the National Institute for Health and Clinical Excellence (NICE) guidance, one of the main points of which is the combined care of such patients.[4]

The population of solid organ transplant recipients is growing and with this the burden and diversity of related skin infections and cancers. Recognition of these conditions by dermatologists, transplant physicians and the patients themselves is paramount to early intervention. At Barts and the London NHS Trust >1,000 organ transplant recipients have been under surveillance since 1989. In keeping with previous reports, the risk of squamous cell carcinoma is increased 100-fold and that of basal cell carcinoma and malignant melanoma 5–10-fold.[5] Kaposi's sarcoma is the most common skin cancer in the first five years post-transplant in the African sub-group of this cohort, occurring in over 20% of individuals. A combination of ultraviolet radiation, impaired immune surveillance, direct carcinogenic effects of certain immunosuppressive drugs and host genetic factors lead to this increased incidence of skin carcinoma. The NICE guidance on skin cancer recommends dedicated skin clinics for such patients.[6]

Systemic disease – referral from the dermatologist

There is an increasing appreciation that chronic skin diseases, such as psoriasis, are not confined to the skin. In addition to the well established association with certain patterns of arthropathy, psoriasis

patients, particularly those with severe disease, appear to be at far greater risk of myocardial infarction.[7] Furthermore, possible associations with obesity and non-alcoholic steatohepatitis as part of the metabolic syndrome could be a consequence of the systemic inflammation driven by the psoriatic process.[8] Given that around 2% of the UK population suffer from this immune mediated skin condition it is important that these associations are actively sought with appropriate early intervention.

Therapeutics and dermatology

Biological therapy

Historically the use of systemic therapy in dermatology has been without randomised clinical trial data to evidence practice. For example, there is very little data on the use of methotrexate (MTX) for psoriasis patients, yet over the last 40 years this is probably the most commonly prescribed systemic therapy. Times are changing; there is now robust randomised controlled data for the use of novel biological therapies for psoriasis such as adalimumab, efalizumab, etanercept and infliximab.[9–12] Close liaison between the British Association of Dermatologists (BAD) and British Society for Rheumatology has led to the launch of the Dermatology Biologics intervention register. This registry will build on the Rheumatology Biologics register which was launched in 2001 to monitor over 14,000 patients with rheumatoid arthritis (RA) treated with biological therapy. The aim of the Dermatology Biologics registry will be to compile information on patients with psoriasis treated with efalizumab (t cell blocker); and adalimumab, etanercept and infliximab (tumour necrosis factor alpha blockers) in respect of efficacy, safety and co-morbidity, initially over a five-year period. These patients will be compared against a population of psoriasis patients treated with 'traditional' systemic agents. This kind of approach will produce robust long-term data which will allow appropriate and informed use of such agents.

Traditional systemic therapy

Despite the evolution of novel agents such as biologics, traditional systemic therapies such as MTX and retinoids (vitamin A derivatives) will continue to have an important role in dermatology. The former, whose main use is in psoriasis therapy, has recently been subject to new guidance following consultation between the National Patient Safety Agency (NPSA) and the major users of low dose MTX.[13] The NPSA was formed in 2001 as a result of an estimated 850,000 incidents and errors causing unintended harm to patients annually in the NHS with their remit to 'make sure people are aware of incidents, learn from them, and ensure they don't happen again'. Methotrexate was an early assignment with all prescribers now having a requirement to issue patient information and blood monitoring booklets. It was hoped it would be possible to limit the use of the 10 mg MTX tablets to cancer patients, this has not proved possible. However, the potential for confusion between the 2.5 mg and 10 mg tablets has been diminished by improvements in the electronic prescription software.

Conference programme

- **Dermatological disease in transplant patients**
  Dr Charlotte Proby (London)
- **Emergency dermatology**
  Dr Cameron Kennedy (Bristol)
- **Skin care in the elderly**
  Dr Margaret Kirkup (Weston-super-Mare)
- **Allergy and the dermatologist**
  Professor David Gawkrodger (Sheffield)

PARKES-WEBER LECTURE

- **From undercover to front cover – psoriasis revealed**
  Professor Christopher Griffiths (Manchester)
- **Lessons for dermatology from a biologics register**
  Professor Deborah Symmons (Manchester)
- **Systemic retinoids and how to use them**
  Professor Christos Zouboulis (Berlin)
- **Methotrexate and the National Patient Safety Agency guidance**
  Dr Robert Chalmers (Manchester)
- **Diabetes and the skin**
  Dr Neil Cox (Carlisle)
- **Genetics and pharmacogenetics in inflammatory skin disease**
  Professor Jonathan Barker (London)

Systemic retinoids are used in the treatment of several dermatological diseases including severe acne (isotretinoin), psoriasis and icthyosis (acitretin), mycosis fungoides (bexarotene) and, in the future, chronic hand dermatitis (alitretinoin).[14,15] As with MTX their use requires careful monitoring with appropriate selection of patients. Their teratogenicity means that contraceptive use is essential in women of child-bearing age. Although the exact mechanism of action of this class of drugs is not clear their anti-proliferative and anti-angiogenic effects may make them potentially useful in other spheres of internal medicine, particularly oncology.

Pharamacogenetics

Pharmacogenetics refers to individual variability in response to drugs due to genetic differences. One drug which is subject to such variability is azathioprine commonly used in the treatment of atopic dermatitis (non-licensed indication), inflammatory bowel disease and RA. Of the general population 11% have low activity of the enzyme thiopurine methyl transferase (TPMT), involved in azathioprine metabolism, and are vulnerable to myelosuppression.[16] One in 300 people have undetectable enzyme activity and as a consequence are at high risk of life-threatening leucopenia if exposed to standard doses of the drug.[16] At present BAD recommends screening all patients for altered TPMT activity prior to starting azathioprine.[17] This kind of directed therapeutic approach may become a reality for a

number of other immunosuppressive drugs such as MTX in the future.[18]

Conclusion

The diversity of topics with significant overlap to other medical specialties briefly discussed in this synopsis demonstrates a clear need for the continued close links between the dermatologist, internal medicine and the hospital environment.

Reference

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