

Isotretinoin: new dose strategies and new uses

Reported by SKF Loo 盧景勳

Date: 8 December 2009
 Venue: Eaton Hotel, Kowloon
 Speaker: Dr. Marius Rademaker
 Consultant Dermatologist,
 Waikato Hospital, Hamilton,
 New Zealand
 Organiser: The Hong Kong Society of
 Dermatology and Venereology

Current understanding and treatment of acne vulgaris were overviewed and practical experience on the use of isotretinoin in various acne and non-acne conditions was shared.

Mechanism and pharmacokinetics of isotretinoin

Mechanism of action of isotretinoin was not fully understood. The therapeutic effects were likely related to the binding and activation of nuclear retinoid receptors. Activities of sebaceous glands were reduced and the growth and differentiation of keratinocytes were altered. It exerted both anti-inflammatory and immunomodulatory effects through interaction with inflammatory cells like neutrophils, eosinophils, B cells and T cells. The serum level of isotretinoin reached the peak at 2-4 hours after oral intake and the absorption was doubled by food. Its half life in the serum was 10-20 hours and its total elimination in the serum took 3-5 days while its epidermal elimination took 2-4 weeks.

Indication

The traditional indication of isotretinoin is severe nodulocystic acne. Other situations which may benefit from the early use of isotretinoin include moderate acne with poor response to 3-month course of antibiotics, mild acne with poor

response to 6-month topical treatment, persistent adult acne, acne excoriee and acne in certain medical conditions, e.g. associated with systemic steroid and immunosuppressants.

Dosage and regime

The conventional dose of isotretinoin was 0.5 mg-1 mg/kg/day and the target cumulative dose of 120 mg-150 mg/kg was aimed to minimize relapse. Novel dosage was introduced based on the speaker's experience in a study of 1883 patients on the use of isotretinoin for 5 years. The daily dose, cumulative dose and duration of isotretinoin use did not significantly influence the clearance of acne in his patient cohort. Acne tended to relapse earlier if the cumulative dose was lower than 100 mg/kg.

Three different dosage regimes were therefore introduced; low dose regime offered the advantage of fewer side effects with better tolerance and compliance.

1) Fixed lower doses – the regime currently used by the speaker

Girls: 10 mg/day for 3 months then 10 mg 3 times/week for 9 months

Boys: 20 mg/day for 6 months then 20 mg 3 times/week for 6 months

Adults: 10 mg 2-3 times/week for 1-3 years

Potential future dosage which may need further studies for clarification

2) On-demand dose

10-20 mg/day when needed until all lesions become cleared

3) Very low daily or intermittent dose

5 mg/day for 5 years

10 mg 2-3 times/week for 5 years

Other non-acne indications

Experience on the use of isotretinoin in various conditions was shared including: hidradenitis suppurativa, rosacea (10-20 mg 2-3 times/week), persistent folliculitis, perioral dermatitis, seborrhoeic dermatitis (0.1 mg/kg/day), sebaceous gland hyperplasia, pityriasis versicolor, confluent and reticulated papillomatosis, Grover's disease, Darier's disease, discoid lupus erythematosus, ichthyosis, epidermal naevus syndrome, atopic dermatitis, chemoprophylaxis, eruptive keratoacanthomas, cutaneous T cell lymphoma, diffuse actinic keratosis, porokeratosis, lentigo maligna, granuloma annulare, sarcoidosis and photoaging.

Learning points

Judicious use of isotretinoin is beneficial to the right patients. Low dose and alternate day regime can be considered in selected patients to improve the tolerance of side effects. The most optimal dose, frequency and duration of isotretinoin treatment are yet to be determined.

Announcement

Application for Annual / Exit Assessment, December 2010 Specialty Board of Dermatology & Venereology Hong Kong College of Physicians

Please be reminded that the application for the Annual / Exit Assessment, December 2010 is now open to the eligible candidates, who should be:

1. Registered trainees in Dermatology & Venereology, Hong Kong College of Physicians
2. Qualified for / will be able to qualify for the Annual / Exit Assessment by 30 December 2010

Those who wish to attend the Assessment should complete the Higher Physician Training (HPT) Annual Assessment Application Form or the Higher Physician (HPT) Exit Assessment Application Form plus Testimonial to the Examination Co-ordinator of the Specialty Board of Dermatology & Venereology on time according to the requirement of HKCP. You may refer to the website of Hong Kong College of Physicians www.hkcp.org/ for detail. Late applicant will not be able to sit for the assessment.

Dr. HO King-man
Chairman
Specialty Board (Dermatology & Venereology)
Hong Kong College of Physicians