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**Literature search results**

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**Search details**

Viral warts, Intervention of isotretinoin or acitretin. Efficacy of these drugs on their own or in combination, in clearing of resolving warts

**Resources searched**

NHS Evidence; National Library for Health; TRIP Database; Cochrane Library; EMBASE; MEDLINE; Google Scholar

*Database search terms*: “viral wart*”; exp WARTS; wart*; virus*; viral; isotretinoin; ISOTRETINOIN; acitretin; ACITRETIN; “human papillomavirus”; PAPILLOMAVIRUS INFECTIONS; HPV; verruca*

*Google search string*: (wart* or verruca* OR HPV OR "human papillomavirus") (viral or virus) (isotretinoin OR acitretin)

**Summary**

The British Association of Dermatologists recommend the use of retinoids for the treatment of cutaneous warts but finds the evidence for the use of acetretin insufficient for it to be recommended. DermNZ says that acitretin should not be used during pregnancy and mentions isotretinoin only in relation to acne vulgaris. Isotretinoin seems to be used as a treatment for this condition and for conditions caused by HPV such as recalcitrant condylomata acuminata or giant condylomata acuminate. I have widened the search to include human papillomavirus, the symptoms of which seems to include warts. Of direct relevance to warts in terms of the two treatments, acitretin and isotretinoin, please see studies: 2; 6; 9; 10; 14; 17; 18; 20; 21; 28; 30; 31; 32; 35; 39 and 40.

**Guidelines**

British Association of Dermatologists

*Guidelines on the Efficacy and Use of Acitretin in Dermatology* 2010
The evidence for the use of acitretin for the treatment of warts is sparse and insufficient to base a recommendation.

**Guidelines for Management of Cutaneous Warts 2001**

Recommends the use of retinoids for the treatment of cutaneous warts: 1 mg/kg/day acitretin for 3 months.

**DermNet NZ**

**Acitretin 2010**

Acitretin MUST NOT be taken in pregnancy; it can damage an unborn child and cause birth defects. Strict birth control measures must be used during treatment and for two years after stopping acitretin.

Some patients are treated for a few months, repeated from time to time, whilst others remain on the acitretin long term. In resistant cases, acitretin can be combined with other antipsoriatic drugs and/or phototherapy.

**Isotretinoin 2010**

Discussed in relation to acne, rather than viral warts.

**Skin cancer in transplant recipients 2010**

Mentions isotretinoin and acitretin in relation to the treatment of skin cancers – may be useful if viral warts develop into squamous cell carcinomas.

**Viral warts 2010**

There are numerous treatments for warts and none offer a guarantee of cure. They include bleomycin injections, laser vaporisation, pulse dye laser, oral acitretin and immune modulators such as imiquimod cream.

**Map of Medicine**

**Warts 2010**

Retinoids: can be used in the treatment of warts, but note that retinoids have not been licensed for this treatment indication.

**Skin Therapy Letter**

**A Practical Guide to Dermatological Drug Use in Pregnancy 2006**

For the treatment of genital warts, trichloroacetic acid and physical modalities such as cryotherapy are felt to be safe in pregnancy. Imiquimod (category B) is minimally absorbed, and animal studies, as well as very limited data of use in pregnant women, have not shown adverse fetal effects.\textsuperscript{22,23}

**Evidence-based reviews**

**Centre of Evidence Based Dermatology, University of Nottingham**

**Skin Conditions in the UK: a Health Care Needs Assessment 2009**

Mentions isotretinoin in terms of side effects, which may be useful; otherwise all related to treatment of acne vulgaris

**Cochrane Central Register of Controlled Trials**

**Oral isotretinoin in the treatment of recalcitrant condylomata acuminata of the cervix: a randomised placebo controlled trial 2004**

Compared to placebo, low dose oral isotretinoin showed considerable efficacy with insignificant and reversible side effects and a low recurrence rate. Isotretinoin may
represent an efficacious and safe alternative systemic form of therapy for RCA of the cervix.

**Cochrane Database of Systematic Reviews**

**Retinoids for preventing the progression of cervical intra-epithelial neoplasia** 2010

Overall, the retinoids studied are not effective at causing regression of severe intra-epithelial neoplasia (CIN3) but may have activity in moderate intra-epithelial neoplasia (CIN2).

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**Published research**

**Journal of Dermatological Treatment**

**Use of acitretin in the treatment of resistant viral warts** 2010

A case of extensive periungual viral warts in an immunocompetent patient that failed to respond to standard treatments over a 10-year period is reported. A rapid and complete response to treatment was achieved with oral acitretin.

1. **Autosomal dominant epidermodysplasia verruciformis: a clinicotherapeutic experience in two cases.**

**Author(s):** Vohra S, Sharma NL, Shanker V, Mahajan VK, Jindal N

**Citation:** Indian Journal of Dermatology, Venereology & Leprology, September 2010, vol./is. 76/5(557-61), 0378-6323;0973-3922 (2010 Sep-Oct)

**Publication Date:** September 2010

**Abstract:** Epidermodysplasia verruciformis (EV) is a rare genodermatosis characterized by a unique susceptibility to cutaneous infection by a group of phylogenetically related human papilloma viruses (HPVs). These patients show a defect in cell-mediated immunity specific toward the causative HPVs that lead to lifelong disease. The defect is usually inherited as autosomal recessive trait and presents clinically with plane warts, pityriasis versicolor-like lesions and reddish verrucous plaques. Dysplastic and malignant changes in the form of actinic keratoses, Bowen's disease and squamous cell carcinoma (SCC) are common but metastasis occurs rarely. A totally effective treatment against EV is as yet highly desirable. Two siblings having autosomal dominant EV presented with multiple actinic keratoses in addition to classic lesions. One of them had also developed well-differentiated SCC over forehead with metastases to regional lymph nodes. They were treated with combination of excision of small malignant/premalignant lesions, topical 5-fluorouracil and sun protection. Additionally, elective excision/grafting of large SCC was performed after chemotherapy/radiotherapy in patient with metastatic SCC. Oral acitretin (25 mg/day) was of benefit in the other patient. Overall clinicotherapeutic experience in both the patients is discussed here.

**Source:** MEDLINE

**Full Text:**

Available in fulltext at [EBSCO Host](https://search.ebscohost.com/login.aspx?direct=true&db=emed&AN=201000208456)

2. **A pre-experimental study for the treatment of facial flat warts with oral isotretinoin [Spanish] Estudio preexperimental para el tratamiento de verrugas planas faciales con isotretinoina oral**

**Author(s):** Olguin Garcia M.G., Cancela R.G., Peralta Pedrero M.L.

**Citation:** Dermatologia Revista Mexicana, September 2010, vol./is. 54/5(267-272), 0185-4038 (September-October 2010)

**Publication Date:** September 2010

**Abstract:** Background: Flat warts are benign neoplasms of the skin and mucous membranes caused by human papilloma virus. Sometimes, they do not respond to conventional management. Topical treatment causes temporary or permanent injury in
30% of patients. Oral isotretinoin induces the disappearance of these lesions. Objective: To evaluate the therapeutic response and tolerability of oral isotretinoin at a dose of 0.5 mg/kg per day for the treatment of recalcitrant facial flat warts in young adults. Patients and methods: From July to December, 2004, at Centro Dermatologico Dr. Ladislao de la Pascua, we conducted a pre-experimental study of patients with clinical diagnosis of facial flat warts of three years duration, who had received multiple treatments (retinoids, 5-fluorouracil, imiquimod, cryotherapy and/or placebo) without success. Oral isotretinoin was prescribed at a dosage of 0.5 mg/kg per day for three months. Iconographic control was performed before and after treatment. Results: The study included 12 patients, men and women, with a mean age of 20 +/- 5 years. In all cases we observed the complete disappearance of the lesions: in one case at the sixth week of treatment; in four cases at the eighth week, in three cases at the tenth week, and in three cases at the twelfth week. The treatment was discontinued once lesions disappeared. One of the side effects was cheilitis. There were no regressions after six months. Conclusions: Although it is necessary to prove oral isotretinoin by means of a controlled clinical trial, it appears to be an effective and safe option for the treatment of recalcitrant facial flat warts.

Source: EMBASE

3. What is new in paediatric dermatology

Author(s): Rademaker M.

Citation: Australasian Journal of Dermatology, November 2009, vol./is. 50/4(A64-A65), 0004-8380 (November 2009)

Publication Date: November 2009

Abstract: The last few years have seen the introduction of new indications of old drugs and re-evaluation of dosing of several medications. These include: * Propranolol 1-2 mg/kg/day in the management of proliferative haemangiomas. Early studies suggest this is more effective than prednisone 2-3 mg/kg/day, with a significantly lower side effect profile. * The management of severe atopic eczema in children has improved with the wider usage of low-dose, weekly methotrexate (<5 yrs of age: 2.5-5 mg/week, 5-10 yrs: 5-7.5 mg/week, 10-15 yrs: 10 mg/week) * Azathioprine (1-3 mg/kg/day) is becoming the 2nd line agent of choice for teenage atopic eczema. * A novel approach to the use of methotrexate has been the introduction of a 2.5 mg dose on four consecutive days, rather than 15 mg once a week. * the dose of isotretinoin continues to fall with evidence that 10 mg/day is sufficient for most children with acne. * A recombinant, quadrivalent vaccine against HPV types 6, 11, 16, and 18 has been funded for girls aged 12-18. This protects against 70% of viral-induced cervical cancers and 90% of genital warts.

Source: EMBASE

Full Text: Available in full text at EBSCO Host

4. Skin complications of HIV infection

Author(s): Creed R., Morrison L.K., Ravanfar P., Mendoza N., Tyring S.

Citation: Expert Review of Dermatology, October 2009, vol./is. 4/5(509-521), 1746-9872 (October 2009)

Publication Date: October 2009

Abstract: Infection with HIV leads to a decrease in cell-mediated immunity resulting in a variety of opportunistic infections of viral, bacterial and fungal etiology. Cutaneous manifestations of infectious and noninfectious causes are frequently reported in HIV patients. Some infectious diseases, such as herpes simplex, herpes zoster, human papillomavirus, bacterial folliculitis and dermatophytosis, are commonly observed in the general population but may have a severe or recalcitrant course in HIV/AIDS patients. Other diseases, such as bacillary angiomatosis and disseminated fungal infections, are rare and limited to immunocompromised individuals. With the advent of highly active antiretroviral therapy in the 1990s, drug reactions have become more frequent. HIV/AIDS patients can have reactions to antiretroviral medications, including a morbilliform rash, urticaria, Stevens-Johnson syndrome and drug hypersensitivity syndrome. 2009 Expert
5. Giant condyloma acuminata of Buschke-Lowenstein: Successful treatment with a combination of surgical excision, oral acitretin and topical imiquimod

Author(s): Erkek E., Basar H., Bozdogan O., Emeksiz M.C.

Citation: Clinical and Experimental Dermatology, April 2009, vol./is. 34/3(366-368), 0307-6938;1365-2230 (April 2009)

Abstract: Human papillomavirus (HPV) is the most common sexually transmitted disorder in young, sexually active populations in the USA and Europe. Giant condyloma acuminatum (GCA) is a unique variant of condyloma acuminata, characterized by local aggressive behaviour despite benign histology. It carries a substantial risk of squamous cell carcinoma. Various treatments have been used, but response is often poor and recurrence rates high. We present a case of GCA successfully treated with a combination of surgical excision, oral acitretin and topical imiquimod. The diagnosis was based on histological examination, immunohistochemical analysis and in situ hybridization for HPV 6 and 11. We recommend a trial of oral retinoid and topical imiquimod in selected cases of GCA. 2008 Blackwell Publishing Ltd.

Source: EMBASE

Full Text: Available in fulltext at EBSCO Host

6. Oral isotretinoin in the treatment of a patient with multiple warty dyskeratoma

Author(s): Hunag C.-C., Chang Y.-J., Wu Y.-H.

Citation: Journal of the American Academy of Dermatology, March 2009, vol./is. 60/3 SUPPL. 1(AB42), 0190-9622 (March 2009)

Abstract: Multiple warty dyskeratoma was first reported in 1987 in a Japanese patient. There were a few subsequent case reports with as many as 15 lesions. We present a patient with hundreds of lesions. A 29-year-old male with no significant medical history came to our clinic 2 years ago. He had one painful skin lesion for several days. Grossly, there was a 5-mm erythematous nodule on his right cheek. Microscopic examination showed invaginated epithelial proliferation with keratin plug, supra-basilar acantholysis, and focal dyskeratotic cells. The diagnosis of warty dyskeratoma was made based on the characteristic pathologic features. More lesions appeared over the next 2 years. A physical examination revealed numerous (about 245) 3- to 5-mm, itchy, keratotic papules with follicular plugging on the scalp, face, neck, and chest. A biopsy of one scalp lesion showed similar pathologic features to the biopsy taken 2 years earlier. Under the impression of multiple warty dyskeratoma, oral isotretinoin 30 mg/day was started. Clinical improvement, in terms of lesion size and lesion number, was documented at 3 months of follow-up. The pathogenesis of warty dyskeratoma is still unclear, though sun exposure, smoking, and viral infection have been proposed as possible etiologic factors. Treatment of multiple warty dyskeratoma was poorly mentioned in previous literature. Retinoic acid, either topical or systemic, seems a reasonable choice, because warty dyskeratoma is basically a keratinization disorder. The excellent clinical improvement of multiple warty dyskeratoma after oral isotretinoin is demonstrated in this case.

Source: EMBASE

7. Human papillomavirus infections from dermatology-venereological point of view: Important invasive and noninvasive treatment options

Author(s): Tchernev G., Nenoff P.

Citation: Acta Medica Bulgarica, 2009, vol./is. 36/1(24-32), 0324-1750 (2009)

Publication Date: 2009
**Abstract:** Genital papillomavirus infections are among the most common sexually transmitted diseases in humans. Sexually transmitted HPV infections are often associated with a spectrum of diseases ranging from benign genital warts to malignant tumors of the cervix, vulva, anus and penis. Genital HPV is in most cases sexually transmitted, but non-sexual routes of transmission are also possible (perinatal/autoinoculation). Men can be a reservoir of the virus that lives in latent form on the genital area. Such an asymptomatic infection could be an oncogenic factor for the development of cervical cancer for example. Lesions associated with sexually transmitted human papillomavirus affect at least 1% of sexually active adults. The treatment for condyloma acuminatum is classified into invasive and non-invasive therapies. Removal of lesions by means of different invasive methods, such as electrodessication, cryotherapy, and/or laser therapy, may be successful and postoperatively combined with local application of some substances, such as podophylic toxin, imiquimod, cidofovir and interferon. The different therapeutic methods must be applied in accordance with clinical picture, taking into account the patient's general status, the presence of concomitant diseases, as well as the local and systematic compatibility of the side effects of each remedy.

**Source:** EMBASE

8. **Multiple huge cutaneous horns overlying verrucae vulgaris induced by human papillomavirus type 2: A case report [7]**

**Author(s):** Chen W., Wei W., Yan-Jun L., Ji-Ying W., Xia-Cing D., Jian W., Rui-Hong S., Zi-Ang P., Wen-Yuan Z., Li-Ping Y., Hong-Xia P., Xin-Ye X.

**Citation:** British Journal of Dermatology, April 2007, vol./is. 156/4(760-762), 0007-0963:1365-2133 (Apr 2007)

**Publication Date:** April 2007

**Source:** EMBASE

**Full Text:**
Available in fulltext at EBSCO Host


**Author(s):** Silva C.S., Ramos R.D.O., Pires M.C., Sittart J.A.S.

**Citation:** Anais Brasileiros de Dermatologia, November 2006, vol./is. 81/6(595-597), 0365-0596;1806-4841 (Nov 2006)

**Publication Date:** November 2006

**Abstract:** We report the result of a treatment with acitretin and alpha-2a interferon in a 16-year-old boy with epidermodysplasia verruciformis. Diagnosis was based on clinical features, histopathological examination and positivity for in situ HPV. The affection was extensive and resistant to other treatment modalities, with a high risk of development of neoplasias. Treatment with oral acitretin associated with subcutaneous recombinant interferon alpha-2a three times per week induced improvement, which was sustained for 16 months of follow-up. 2006 by Anais Brasileiros de Dermatologia.

**Source:** EMBASE

10. **Treatment of extensive and recalcitrant viral warts with acitretin.**

**Author(s):** Choi YL, Lee KJ, Kim WS, Lee DY, Lee JH, Lee ES, Yang JM

**Citation:** International Journal of Dermatology, April 2006, vol./is. 45/4(480-2), 0011-9059:0011-9059 (2006 Apr)

**Publication Date:** April 2006

**Source:** MEDLINE

**Full Text:**
Available in fulltext at EBSCO Host
11. Natural and synthetic retinoids: Structural bases and biological effects of potential clinical relevance for the prevention and treatment of infection-driven tumors

Author(s): Dolcetti R., Di Luca D., de Lera A.R.

Citation: Anti-Infective Agents in Medicinal Chemistry, January 2006, vol./is. 5/1(85-103), 1871-5214 (Jan 2006)

Publication Date: January 2006

Abstract: Retinoids play a critical role in the regulation of cell division, growth, differentiation, and proliferation, and represent an exciting new avenue for targeted therapy of different diseases, including cancer. Natural and synthetic retinoids are also endowed with antiviral properties that make these compounds particularly attractive for the prevention and treatment of infection-driven tumors. In this review, we will summarize the structural bases and the cellular and antiviral effects of retinoids which provide a molecular basis for the management of virus-associated tumors, including Kaposi’s sarcoma (HHV-8) and post-transplant lymphoproliferative disorders (EBV). Particular relevance will be given to the selectivity of these retinoids for their cognate receptors (RAR and RXR) in order to establish a link between receptor modulation and antiviral/antitumor effects. 2006 Bentham Science Publishers Ltd.

Source: EMBASE

12. Cutaneous warts: An evidence-based approach to therapy

Author(s): Bacelieri R., Johnson S.M.

Citation: American Family Physician, August 2005, vol./is. 72/4(647-652), 0002-838X (15 Aug 2005)

Publication Date: August 2005

Abstract: Cutaneous warts are a common presenting complaint in children and adolescents. Common, plantar, or flat warts are cutaneous manifestations of the human papillomavirus. The treatment of warts poses a therapeutic challenge for physicians. No single therapy has been proven effective at achieving complete remission in every patient. As a result, many different approaches to wart therapy exist. These approaches are discussed to demonstrate the evidence supporting common therapies and provide a guideline for physicians. Evidence supports the at-home use of topical salicylic acid and physician-administered cryotherapy. Intralesional immunotherapy for nongenital cutaneous warts may be an option for large or recalcitrant warts. Copyright 2005 American Academy of Family Physicians.

Source: EMBASE

Full Text: Available in fulltext at EBSCO Host

13. Chemoprevention and vaccines: A review of the nonsurgical options for the treatment of cervical dysplasia

Author(s): Bell M.C., Alvarez R.D.

Citation: International Journal of Gynecological Cancer, January 2005, vol./is. 15/1(4-12), 1048-891X (Jan 2005)

Publication Date: January 2005

Abstract: Human papillomavirus (HPV)-related disease is a significant health problem in the United States and throughout the world, especially in developing countries. Standard treatment to date has been surgical excision, but we ask the question "For what other clinically evident, virally mediated disease is the standard of treatment surgery?" The authors performed a systematic literature review and selected articles most relevant to the topic. This article reviews prevention, chemoprevention, and vaccine trials for the prevention and treatment of HPV-related disease of the genital tract. Significant advances have been made in the last decade, and the future holds promise for effective nonsurgical
options for the patients with cervical dysplasia and other HPV-associated diseases.

**Source:** EMBASE

**Full Text:**
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Available in fulltext at [EBSCO Host](#)

14. **Complete remission of recalcitrant viral warts under oral isotretinoin in a patient with low-grade B-cell lymphoma [8]**

**Author(s):** Monastirli A., Matsouka P., Pasmatzi E., Melachrinou M., Georgiou S., Solomou E., Zoumbos N., Tsambaos D.

**Citation:** Acta Dermato-Venereologica, 2005, vol./is. 85/4(358-360), 0001-5555;1651-2057 (2005)

**Publication Date:** 2005

**Source:** EMBASE

**Full Text:**
Available in fulltext at [EBSCO Host](#)

15. **Hypertrophic lichen planus-like reactions combined with infundibulocystic hyperplasia: pathway to neoplasia.**

**Author(s):** Kossard S, Thompson C, Duncan GM

**Citation:** Archives of Dermatology, October 2004, vol./is. 140/10(1262-7), 0003-987X;0003-987X (2004 Oct)

**Publication Date:** October 2004

**Abstract:** BACKGROUND: Retinoids have the capacity to accelerate the involution of multiple keratoacanthomas, including unusual variants such as keratoacanthoma marginatum centrifugum and keratoacanthoma en plaque that may persist and be associated with progressive growth and provide difficulties in diagnosis and management. OBSERVATIONS: We describe 3 patients who had unusual infiltrated and keratotic plaques affecting the lower legs or nasolabial area that persisted or recurred that may be related to this group of unusual keratoacanthomas. The 3 patients had differing clinical lesions that did not resemble classic keratoacanthomas, but were linked by their biopsy findings of hypertrophic lichen planus-like reaction and pseudoepitheliomatous hyperplasia with a prominent infundibulocystic component that progressed to multiple keratoacanthomas or infundibulocystic squamous cell carcinoma. Polymerase chain reaction analysis of biopsy material from 2 patients failed to detect human papillomavirus. All 3 presentations provided a therapeutic dilemma, but responded rapidly to acitretin treatment at a dosage of 10 to 25 mg daily, which was continued for 15 to 24 months. CONCLUSIONS: These cases illustrate an unusual reaction pattern that is hypertrophic lichen planus-like but, instead of evolving to classic lichen planus, progresses to infundibulocystic hyperplasia and the development of multiple keratoacanthomas or infundibulocystic squamous cell carcinomas. Retinoids represent a therapeutic option for this difficult clinical problem and may obviate repeated and extensive surgery.

**Source:** MEDLINE

**Full Text:**
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Available in fulltext at [Ovid](#)
Available in print at [Lincoln County Hospital Professional Library](#)

16. **Oral isotretinoin in the treatment of recalcitrant condylomata acuminata of the cervix: a randomised placebo controlled trial.**

**Author(s):** Georgala S, Katoulis AC, Georgala C, Bozi E, Mortakis A
Abstract: BACKGROUND: Conventional therapies for human papillomavirus (HPV) infection are often associated with unsatisfactory response rates and high recurrence rates. The use of a systemic agent may more effectively control the virus. OBJECTIVES: To investigate the efficacy and safety of low dose oral isotretinoin in recalcitrant condylomata acuminata (RCA) of the cervix. METHODS: Double blind placebo controlled clinical trial. 60 women, aged 21-43 years, with RCA of the cervix, refractory to at least one conventional therapy, were randomly assigned to receive either isotretinoin, 0.5 mg/kg daily for 12 weeks (group 1), or placebo (group 2). RESULTS: Of the 28 evaluable group 1 patients, nine (32.1%) responded to the treatment completely, 11 (39.2%) responded partially, and eight (28.5%) did not respond. Of the 25 group 2 patients, no one responded completely, two (8%) responded partially, and 23 (92%) did not respond. The therapeutic difference between patients receiving active and placebo therapy was statistically significant (chi(2) = 19.35, p<0.001). Only one (11.1%) of the complete responders experienced recurrence during the 12 month follow up. Side effects were generally mild and resolved upon completion of therapy. CONCLUSIONS: Compared to placebo, low dose oral isotretinoin showed considerable efficacy with insignificant and reversible side effects and a low recurrence rate. Isotretinoin may represent an efficacious and safe alternative systemic form of therapy for RCA of the cervix.

Source: MEDLINE

Full Text:
Available in fulltext at Highwire Press
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Available in fulltext at National Library of Medicine
Available in print at Grantham Hospital Staff Library

Epidermodysplasia verruciformis with multiple mucosal carcinomas treated with pegylated interferon alfa and acitretin.

Author(s): Gubinelli E, Posteraro P, Cocuroccia B, Girolomoni G

Citation: Journal of Dermatological Treatment, September 2003, vol./is. 14/3(184-8), 0954-6634;0954-6634 (2003 Sep)

Publication Date: September 2003

Abstract: Epidermodysplasia verruciformis (EV) is characterized by abnormal genetically-determined susceptibility to widespread and persistent infection of the skin with human papillomaviruses (HPV). The infection results in disseminated pityriasis versicolor-like lesions and flat warts. Skin malignant changes are very common and occur on sun-exposed areas. Several treatments have been used but without consistent benefit. Recently, retinoids and alpha-interferon, alone or in combination, have been reported to be of value in the therapy of EV lesions. We present the case of a 43-year-old white female affected by EV who developed multiple squamous cell carcinomas in the oral and genital mucosae during the previous four years. Both wart and cancer lesions harbored HPV24 along with the novel putative HPV type FA51. The patient was treated with a combination of acitretin (0.2 mg/kg per day) and peginterferon alfa-2b (1 microg/kg per week s.c.) for one year, with marked improvement of verrucous lesions and no recurrence of mucosal cancer. Thereafter, interferon was stopped whereas acitretin therapy was continued, but a new Bowen's disease developed in the perianal region, and the acitretin dose was increased at 0.5 mg/kg per day. At six-month follow-up, only a low number of flat warts persisted, and no clinical signs of cutaneous or mucosal carcinoma were evident.

Source: MEDLINE

Full Text:
Available in fulltext at EBSCO Host
18. Treatment of common warts with surgery and systemic isotretinoin

Author(s): Karacal N., Altintas H., Akoz T., Erdogan B.

Citation: European Journal of Plastic Surgery, February 2003, vol./is. 25/7-8(424-426), 0930-343X (Feb 2003)

Publication Date: February 2003

Abstract: Warts, or verrucae, are benign epithelial proliferations of the skin and mucosa caused by infection with human papilloma viruses. These are slow-growing lesions that can remain subclinical for long periods of time. Since there is no single treatment that is 100% effective, and the lesions may effect the patient's life quality, combinations of treatment modalities may be used. A case of hornlike warts on both hands and all over the body is presented. He was treated with surgical excisions and systemic isotretinoin at a dose of 1 mg/day administered for 6 months. The warts were largely resolved by the 6th postoperative month.

Source: EMBASE

19. Retinoid chemoprevention in patients at high risk for skin cancer

Author(s): DiGiovanna J.J.

Citation: Medical and Pediatric Oncology, 2001, vol./is. 36/5(564-567), 0098-1532 (2001)

Publication Date: 2001

Abstract: Patients who develop large numbers of skin cancers suffer increased morbidity and mortality. A high skin cancer risk can result from inherited disorders such as xeroderma pigmentosum (abnormal repair of UV-induced DNA damage) or the nevoid basal cell carcinoma syndrome (tumor suppressor gene abnormality). The efficacy of systemic retinoid skin cancer chemoprevention was first demonstrated in these disorders. Since the mechanism of cancer prevention was not thought to involve correction of the underlying defect causing the disorder, individuals at high risk for new skin cancers from other causes may also benefit from this approach. With the success of organ transplantation, there is a growing population of transplant recipients living long, active lives who also have sustained chronic UV damage. This population is at high risk for developing aggressive squamous cell carcinomas. In this population, extensive skin involvement with human papilloma virus induced warts and actinic keratoses results in difficulty with diagnosis and monitoring for these dangerous malignancies. Patients who have received treatment with agents that cause DNA damage, such as X-radiation, may also have a high skin cancer risk. Retinoid chemoprevention may also be of benefit in the management of selected patients with these iatrogenic conditions. This evolving therapeutic role has heightened the need for the development of new retinoids, with more efficacy and less toxicity, for cancer chemoprevention. 2001 Wiley-Liss, Inc.

Source: EMBASE

20. Epidermodysplasia verruciformis: association with isolated IgM deficiency and response to treatment with acitretin.

Author(s): Iraji F, Faghihi G

Citation: Clinical & Experimental Dermatology, January 2000, vol./is. 25/1(41-3), 0307-6938;0307-6938 (2000 Jan)

Publication Date: January 2000

Abstract: We describe a 25-year-old woman, who had extensive, large viral warts consistent with epidermodysplasia verruciformis (EV) since she was 6-year-old. Laboratory studies revealed an isolated IgM-deficiency, but the patient demonstrated no other abnormalities. She was treated with oral acitretin (0.5-1 mg/kg/day) for six months and her skin lesions improved slightly. However, after discontinuing the treatment, the lesions came back but she declined further treatment.

Source: MEDLINE

Full Text:
21. Epidermodysplasia verruciformis with neurological manifestations.

Author(s): Al Rubaie S, Breuer J, Inshasi J, Al Saady S, Fathi I

Citation: International Journal of Dermatology, October 1998, vol./is. 37/10(766-71), 0011-9059;0011-9059 (1998 Oct)

Publication Date: October 1998

Abstract: BACKGROUND: Epidermodysplasia verruciformis (EV) is a rare, inherited disorder in which there is widespread and persistent infection by multiple subtypes of human papilloma virus, tinea versicolor-like lesions and plaques, and frequently malignant manifestations. MATERIALS AND METHODS: We report two cases of EV—a sister and brother aged 14 and 18 years respectively. Both had classical skin lesions together with neurological manifestations and deafness. In addition the man had plantar hyperkeratosis. They were treated with etretinate. CONCLUSIONS: PCR and DNA hybridization of skin lesions from the man contained HPV-20 and HPV-57. He was treated with long-term oral acitretin; the warty lesions became partly or wholly flattened and the plantar hyperkeratosis showed a remarkable improvement. The woman died 10 years later as a result of metastasizing breast cancer.

Source: MEDLINE

Full Text: Available in fulltext at EBSCO Host

22. Anti-proliferative effect of retinoids and interferon-alpha-2a on vaginal cell lines derived from squamous intra-epithelial lesions.

Author(s): Hietanen S, Auvinen E, Syrjänen K, Syrjänen S

Citation: International Journal of Cancer, October 1998, vol./is. 78/3(338-45), 0020-7136;0020-7136 (1998 Oct 29)

Publication Date: October 1998

Abstract: A panel of retinoids (all-trans-, 13-cis-, 19-cis retinoic acid and acitretin), and interferon-alpha-2a was tested for the capacity to modulate the proliferation of UT-DEC-1 (HPV-33-positive) and UT-DEC-2 (HPV-16-positive) cell lines derived from vaginal intra-epithelial neoplasias (VAIN). At concentrations 10(-6) to 10(-8) M, all retinoids inhibited the growth of early-passage UT-DEC cell lines, but also of normal vaginal keratinocytes and fibroblasts. The inhibition was significantly reduced in late-passage UT-DEC cells. The effect on proliferation was essentially equal for all retinoids in high (1.8 mM)-Ca2+ medium, but decreased markedly in low (0.09 mM)-Ca2+ medium. Interferon-alpha-2a at 1000 IU/ml had an additive growth-inhibitory effect in the low- and in the high-Ca2+ medium. No consistent decrease in HPV E6-E7 mRNA levels could be associated either with retinoid or with interferon effect in either cell line. The expression of TGFbeta1 and TGFbeta2 mRNA increased 2- to 3-fold by 10(-6) M 13-cis-RA treatment in early- and in late-passage cells of both cell lines. TGFbeta1 at 0.1 to 1.0 ng/ml also inhibited the proliferation of both cell lines, and was more effective at early passage, but the inhibition was not dependent on calcium concentration. Neutralizing anti-TGFbeta antibodies partially relieved the proliferation inhibition by 13-cis-RA. The results show that the calcium-associated regulation of growth by the tested retinoids was seen in normal vaginal cells and in early pre-neoplastic cells, but was significantly reduced in cells with higher-grade phenotype, while also suggesting that the loss of responsiveness to retinoids and TGFbeta may play a role in the progression of squamous intra-epithelial neoplasia.

Source: MEDLINE

23. Failure of isotretinoin and interferon-alpha combination therapy for HPV-linked severe vulvar dysplasia: A report of two cases

Author(s): Vilmer C., Havard S., Cavelier-Balloy B., Pelisse M., Dubertret L., Leibowitch M.

Citation: Journal of Reproductive Medicine for the Obstetrician and Gynecologist, August
Abstract: BACKGROUND: Retinoids (RA) and interferon (IFN) have been reported to be active against a variety of tumors and human papillomavirus (HPV) related lesions. Because chronic and recurrent HPV-linked vulvar intraepithelial neoplasia 3 (VIN 3) have a high risk of invasion, we evaluated combined therapy of IFN-alpha with 13-cis-retinoic acid (13 cRA) in the treatment of two VIN 3 cases of this type. CASE: Two patients with chronic and recurrent VIN 3 were treated with combined therapy of IFN-alpha 4.5x10^6 five times a week) and 13 cRA (1 mg/kg/d) for six months. Clinical regression was observed at the end of treatment in both cases, but histologic features of VIN 3 were still present. CONCLUSION: These data demonstrate the ineffectiveness of the combined regimen of IFN-alpha and 13 cRA with this schedule for a period of six months in recurrent and chronic VIN 3.

Source: EMBASE


Author(s): Kibrité A, Zeitouni NC, Cloutier R

Citation: Canadian Journal of Surgery, April 1997, vol./is. 40/2(143-5), 0008-428X;0008-428X (1997 Apr)

Publication Date: April 1997

Abstract: Malignant transformation has been described in 30% of cases of giant anorectal condyloma acuminatum. The authors report on a 33-year-old man who was heterosexual and HIV negative and who had a giant anal condyloma. Despite aggressive therapy with multiple fulgurations, interferon alpha and isotretinoin, an invasive squamous cell carcinoma of the rectum developed. An abdominoperineal resection was done followed by radiotherapy and chemotherapy, but this treatment regimen was unsuccessful in controlling the progression of his carcinoma. Human papillomavirus (HPV) serotyping in tumoral tissue was positive for HPV types 11 and 16. In patients with giant anorectal condylomas associated with oncogenic HPV, the course of the disease may be aggressive, so they may benefit from early surgical and medical intervention.

Source: MEDLINE


Author(s): Lacour M, Mehta-Nikhar B, Atherton DJ, Harper JI

Citation: British Journal of Dermatology, June 1996, vol./is. 134/6(1023-9), 0007-0963;0007-0963 (1996 Jun)

Publication Date: June 1996

Abstract: Retinoid therapy represents the treatment of choice for severe inherited disorders of keratinization. This paper reviews our experience of acitretin, compares acitretin with etretinate and defines guidelines for treatment. Forty-six children have received acitretin since 1992 in our hospital: 29 children had either lamellar ichthyosis (nine), non-bullous ichthyosiform erythroderma (five), bullous ichthyosiform erythroderma (four), Sjögren-Larsson syndrome (three) or another rare condition (eight). The other 17 children who had psoriasis (16) and extensive viral warts (one), were excluded. Data on efficacy and tolerability of retinoid therapy were available for all but one patient. The cumulative follow-up was 472 months for acitretin. The mean (+/- standard deviation) optimal dosage for acitretin was 0.47 +/- 0.17 mg/kg per day, and this did not significantly differ between disorders. The overall improvement was considerable, with only three patients responding poorly. Mild to moderate mucocutaneous dryness was frequent. Minor abnormalities of liver function tests (four patients) and triglycerides (one patient) never led to changes of therapy. Irreversible side-effects did not occur. Acitretin therapy for children with inherited keratinization disorders is best started at 0.5 mg/kg per day. It represents a safe and effective treatment, provided that the minimal effective dose is maintained and that side-effects are carefully monitored. When switching from etretinate to acitretin, a 20%
reduction is recommended if the etretinate dose is over 0.75 mg/kg per day or if side-effects are dose limiting. Otherwise the same dose can be used.

Source: MEDLINE

26. Treatment of anogenital warts

Author(s): Handley J., Dinsmore W.

Citation: Journal of the European Academy of Dermatology and Venereology, 1994, vol./is. 3/3(251-265), 0926-9959 (1994)

Publication Date: 1994

Abstract: This article critically reviews both established and experimental treatment modalities for anogenital (AG) warts. Efficacy, cost, safety, advantages and disadvantages of each therapy are directly compared and treatment algorithms are suggested. Treatment of AG warts in pregnant women and prepubertal children is discussed. As AG warts are a sexually transmitted disease (STD) prevention of infection and the need to screen and treat patients and their sexual partners for other concurrent infections is stressed. The majority of patients with AG warts also have subclinical or latent HPV infection/associated disease of the AG tract. In this regard all such women should be screened for the presence of cervical intraepithelial neoplasia (CIN).

Source: EMBASE

27. An update on common skin diseases: Acne, psoriasis, contact dermatitis, and warts

Author(s): Millikan L.E., Shrum J.P.

Citation: Postgraduate Medicine, 1992, vol./is. 91/6(96+98+101-104+107-110+115), 0032-5481 (1992)

Publication Date: 1992

Abstract: The therapeutic approaches to the five common skin problems described range from standard topical and systemic agents to newly introduced alternative medications and techniques. In acne, the type of lesion found on physical examination determines the severity of the disease and its subsequent treatment. When necessary, appropriate precautions must be taken before and during therapy. Fortunately, with the drugs available today, only the most extreme cases of acne should progress to the stage where physical and/or psychological scarring occurs. The number of therapeutic approaches to psoriasis, from steroids to UV light, pays testament to the difficulty in treating this cyclic disease. Until an effective and safe medication is developed, research is sure to continue. Sources of the antigen causing contact dermatitis are sometimes unusual, but the lesions have a characteristic appearance. Several topical and systemic agents are available. Patient education and prophylactic measures play an important role. Therapies for both venereal and nonvenereal warts are proliferating. The evolving understanding of viral oncogenesis in both types of warts promises that this will be an area of continued intense research in the next few years.

Source: EMBASE

28. Acitretin in the treatment and prevention of viral, premalignant and malignant skin lesions

Author(s): Rogozinski T., Geiger J.-M., Czarnetzki B.M., Jablonska S.

Citation: Journal of Dermatological Treatment, 1989, vol./is. 1/2(91-93), 0954-6634 (1989)

Publication Date: 1989

Abstract: The objective of this study was to evaluate the effect of acitretin in the treatment and prevention of cutaneous HPV-induced lesions, actinic keratoses and carcinomas. A total of ten patients (five with epidermodysplasia verruciformis, three with multiple common warts induced by HPV2, one with Bowen's disease and multiple basal cell carcinomas secondary to arsenic treatment, and one with xeroderma pigmentosum) were included in the study. One patient with epidermodysplasia verruciformis had to discontinue treatment (50 mg/day) after 1 month because of toxic hepatitis. In six out of eight patients evaluable
for efficacy, results were considered good since the progressive disease became stationary, with no new lesions or malignant transformation of pre-existing actinic keratoses.

Source: EMBASE

Google Scholar

29. Verrucas: guidelines for management

JA Leman, E Benton - American Journal of Clinical …, 2000 - ingentaconnect.com
... Acitretin in the treatment and prevention of viral, premalignant and malignant skin lesions. ... Treatment of common and plantar warts with human lymphoblastoid interferon alpha: pilot studies ... interferon for the treatment of patients with condylomata acuminate or verruca plantaris. ...
Cited by 23 - Related articles - All 2 versions

30. Isotretinoin treatment of recalcitrant warts in an immunosuppressed man

RA Katz - Archives of Dermatology, 1986 - Am Med Assoc
... Man To the Editor. The immune system plays an important role in the control of common viral wart infections. Both serum antibody as well as cell-mediated factors participate in the host's response to the wart virus. 1 Extensive persis- tent verrucae have been ...
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DS Krupa Shankar… - Indian Journal of Dermatology, …, 2008 - Medknow
... Sir, Warts or verrucae are benign proliferations of cutaneous and mucosal epithelium caused by ... are common because of the lack of specific antiviral medications against common warts. ... As viral replication depends on keratinocyte differentiation, it is possible that acitretin may ...
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R Romiti… - Pediatric Dermatology, 2002 - Wiley Online Library
... In agreement with Kang and Song (1), we consider the transmission of viral infections a ... response to imiquimod, a recently developed immunomodulator for the treatment of warts (4). ... 1. Kang HY, Song J. Verruca vulgaris following treatment of vitiligo with epidermal grafting. ...
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... bias inasmuch as all of our patients were human immunodeficiency virus- antibody negative ... 2 interferon for the treatment of patients with condyloma acuminate or verruca plantaris ... human lymphoblastoid interfer- on alpha for the treatment of cutaneous, nongenital viral warts. ...
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acuminatum or **verruca** plantaris, Arch. ...

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37. **Common pediatric and adolescent skin conditions**
   
   
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   ... A Case of Widespread and Recalcitrant **Verruca** Vulgaris Treated Successfully with Oral **Acitretin** Arzu KILIÇ, MD a , Müzeyyen GÖNÜL, MD a , Ülker GÜL, MD a , Seçil SOYLU,M.D a a 2nd ... ABSTRACT **Warts** are cutaneous tumors caused by human papilloma **virus** which tend ...