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Dermatologic Primary Care Programme for Neuquén Province, Patagonia, Argentina

Instruction for Primary Care Agents

Contents

Background

Neuquén Province is located in the southwest of Argentina, bordering with Chile.

As in many other parts of the world, there are too few dermatologists to deal with a very high demand for skin care due to the high prevalence of skin diseases in the region.

During the 70´s the government established a Primary Care System, which divides the province in six sanitary regions, each one with a Referral Hospital and many Peripheral Centres. All the Hospitals are interconnected by a system of patient referral and tertiary care. The main tertiary Hospital is in Neuquén's capital city, which is not in the geographical centre of the province, but on the east border. Patients from the western border must travel approximately 400 km to reach the capital.

The "Agente Sanitario" (Primary Care Agent) is the key individual in the health service for these isolated communities. These largely belong to Mapuche communities, and most of the time "agentes" are chosen by their communities. They are trained to perform as health primary-level care givers. They can deliver the medicines ordered by the doctor, help in understanding medical prescriptions, vaccinate, perform examination of pregnant women and healthy children , perform environmental surveillance, and they provide primary care in the absence of the doctor or before the patient is referred to a more specialized centre. General Practitioners and Dentists visit rural areas once a month, performing checks of pregnant women and healthy children and general consultations.

Considering the long distances and geographical characteristics of this region, Primary Care Agents play a key role in front line health.

Dermatology services

There are only two dermatologists working for the public health system in the whole province (570,000 habitants). Against this background, Dr. Isabel Casas designed a Dermatologic Primary Attention Programme for Neuquén Province. She first contacted Prof. Henning Grossmann at RDTC, Moshi, Tanzania, where she spent three weeks reviewing the clinic work and receiving advice and mentorship. In view of the different cultural and sociopolitical situations in Africa and South America, Prof. Grossmann suggested she should approach Prof. Roberto

Dermatologic Primary Care Programme *continued*

Primary schoolchildren learning about photoprotection

Estrada who has run a "Dermatología Comunitaria" programme in Mexico for almost 20 years. Dr. Casas received a Dermlink programme award in 2009 to participate in Prof. Estrada´s programme, an experience that provided a basis for the subsequent work.

The main objective of the Dermatology Primary Care Programme for Neuquén Province is to provide accessibility to dermatological expertise for rural communities that either for geographic or socioeconomic reasons do not have access to specialist expertise. It also aims to provide basic dermatology training to health care workers living in rural areas, to survey skin disease in rural populations, offer medical treatment for pathologies detected, establish primary care activities to prevent the commonest dermatoses, and to record epidemiological data in order to stimulate further research.

The Programme has several characteristics. These include an approach *appropriate* for the community and health workers in the area (previous knowledge of the Mapuche community is required), *sustainability* (for collection of epidemiological data), *simplicity* (requiring the minimal economic resources), *continuity* (to provide long term support) and *flexibility* (adaptable to different variables such as climate, socio-political changes, number of participants, community size, etc).

The Programme is similar to Prof. Estrada´s, structured in two-day length "Jornadas" held in different rural areas of Neuquén Province. The first day of the Jornada is devoted to educational activities for Health Care workers and Primary School Teachers. On the second day there is a dermatological assessment of all patients who require evaluation. During both days, a separate group of trained teachers visit rural schools performing activities designed to teach basic photo protection concepts to primary school teachers and students.

Programme details

On June 7th and 8th 2010, the first Jornada took place at Chos Malal, a rural community at the north west part of Neuquén Province. Dermatologists from Buenos Aires (Prof. Raúl Valdéz and Dr. Ignacio Rébora), Bahía Blanca (Dr. Gabriela Alvarez), Neuquén (Dr. Liliana Rodriguez Lupo and Dr. Ivana Abdo) and Zapala (Dr. Osvaldo Maino) participated voluntarily. Prof. Roberto Estrada was prevented by illness from assisting on this occasion.

The first day, 50 local front line health workers (medical officers, nurses and "agentes sanitarios") attended the teaching activities and over 75 primary school teachers joined the workshop on General Skin Care, Photoprotection and Pediculosis. Both activities involved interactive participation of both personnel and assistants. Printed material with educational brochures on the commonest dermatoses was used in all the activities.

On the second day, over 400 patients came for dermatological treatment, some of these were referred by general practitioners, but many came spontaneously after hearing the radio invitations. A dual set of clinical files was provided for each patient, one remained at Chos Malal Hospital and the other was used for epidemiological surveillance. All the data were recorded in an Excel data base and shared with the participants and collaborating teams. The commonest pathologies detected were atopic dermatitis, acne, rosacea, contact dermatitis and naevi.

Simultaneously with the Jornada, Photoprotection Workshops for rural primary school students were held in different rural settlements, with over 422 children participating.

Medical Officers attending the Jornadas are encouraged to maintain e-mail connection with the dermatologists participating in the project, in order to receive supervision on patient follow up and need for referral of complex cases to hospital.

The collaboration of the IFD was crucial for the development of these first steps of the Programme, allowing Dr. Casas to receive personal training with Prof. Roberto Estrada, and giving the project support and advice from the very beginning. The programme has also received support from the pharmaceutical industry (transportation of the participants from Buenos Aires), and local authorities (hotel and food at Chos Malal for all the participants).

Practical results

To date the programme has achieved some major positive steps. Local government authorities are initiating negotiations to establish it as a regular Primary Attention Programme[1]. This will take time and political budget. The Comahue University School of Medicine located at Neuquén has included the Jornadas in their University External Activities Programme, allowing medical students to participate and covering their insurance as well.

Both Argentinian Dermatological Societies (SAD and AAD) are evaluating the possibility of including participation in this kind of Programme in the Official Dermatology Residence Program. Two University Hospitals at Buenos Aires have made contact with Dr. Casas with the objective of establishing a visiting rotation for their dermatology residents at rural hospitals where there are no specialists. A full session on "Dermatologia Comunitaria" will be held at the Argentinian Congress of Dermatology in 2011.

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Professor R. Hay

[1] http://www4.neuquen.gov.ar/salud/index.php?option=com_content&view=article&id=209:programa-de-atencion-primaria-en-dermatologia&catid=13:programas-provinciales

HIV-related skin diseases in the era of Anti Retro Viral drugs (ARVs): increased incidence of drug-related adverse effects and Immune Inflammatory Reconstitution Syndrome (IRS)-associated skin diseases

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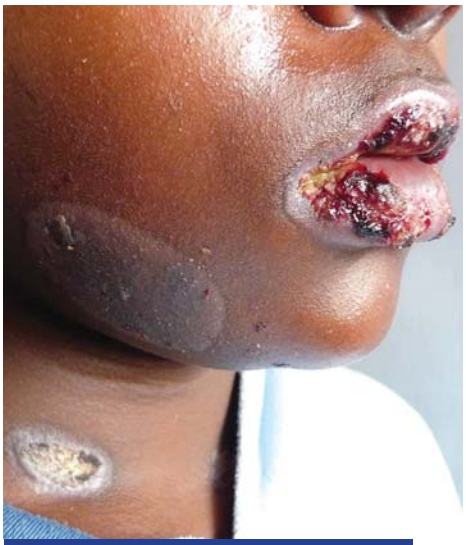

Fig. 1. Fixed drug eruption with mucocutaneous involvement

Introduction

Since the World Health Organization's commitment to roll-out antiretroviral (ARV) drug therapy to HIV-infected patients in resource-poor countries, clinicians looking after this group of patients have noticed that there has been a significant decline in the prevalence and severity of HIV immunosuppression-related skin diseases, particularly opportunistic infections. In addition, skin diseases in HIV-infected patients are much easier to manage and treat after they have been started on ARVs and experience immune recovery. However, even in the era of ARVs skin diseases in HIV-infected patients are still common but the spectrum of disease has changed. This article discusses the increased incidence of acute drug reactions and long term side effects associated with ARVs as well as the phenomenon commonly described as immune reconstitution syndrome (IRS).

Acute drug reactions

HIV-infected patients are susceptible to acute drug reactions which are often severe. They are more likely to develop the life-threatening drug reactions, Stevens Johnson Syndrome (SJS) and Toxic Epidermal Necrolysis (TEN). Africans infected with HIV also have a higher incidence of fixed drug eruptions which are more severe than in non-HIV infected people as they are affected with a larger number of lesions, which can be bullous and there may be mucous membrane involvement *(Figure 1)*. HIV immunosuppression causes photosensitivity particularly in darker skins, and this can worsen with photosensitizing medication producing a severe photodermatitis *(Figure 2)*. The incidence of drug reactions appears to be higher in HIV-infected patients after they are started on ARVs, one study reporting an increase from 8% to 20%.[1] There are several reasons for this: improved immune responses after ARVs increases the likelihood of mounting drug reactions as they are immunologically-mediated; drugs used for the prophylaxis and treatment of opportunistic infections such as sulphonamides, aminopenicillins and anti-tuberculous drugs are often responsible for drug reactions; and ARVs themselves frequently cause drug reactions.

ARV-related drug reactions generally occur soon after ARV initiation but are usually reversible or treatable. They are commonest with the non-nucleoside reverse transcriptase inhibitors (NNRTIs) nevirapine and efavirenz. The incidence of nevirapine-induced rash ranges from 9% to 32% and

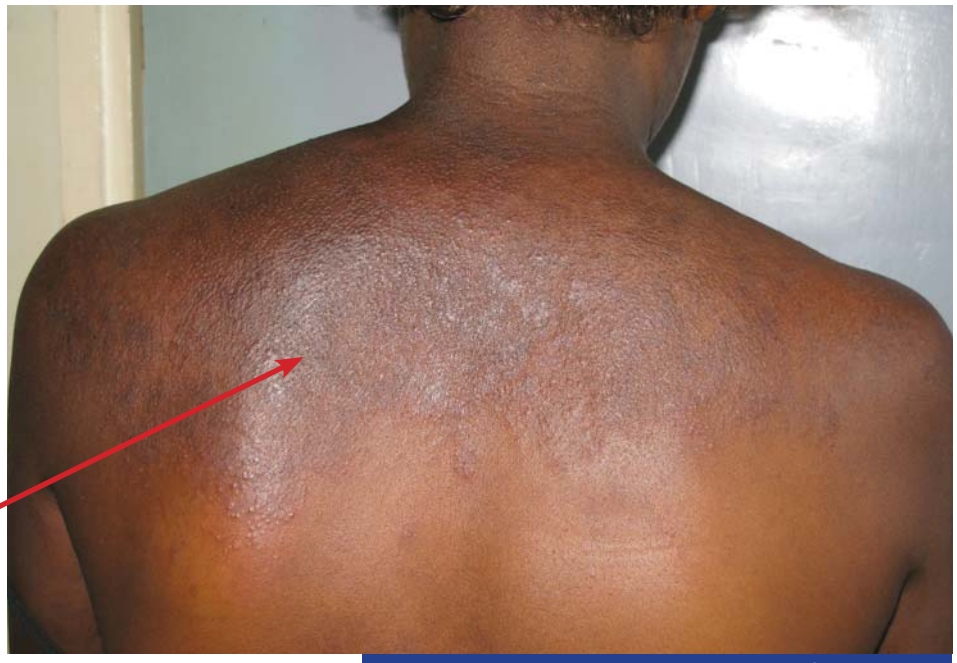

Fig. 2. Photodermatitis caused by ibuprofen, a NSAID

Fig. 3. Stavudine-induced lipoatrophy leading to loss of fat from the cheeks

HIV-related skin diseases in the era of Anti Retro Viral drugs (ARVs) *continued*

its frequency increases with dose increase. It usually occurs within the first 6 weeks of commencing treatment when patients require close monitoring. The rash can range from a mild exanthematous rash to SJS. SJS requires prompt recognition and permanent discontinuation of the drug.[2] Abacavir can also produce a severe drug reaction, 5-8% of patients developing a hypersensitivity rash with fever, respiratory, and gastrointestinal symptoms which usually resolves with prompt withdrawal of the drug.

Long term mucocutaneous side effects of ARVs

ARVs are commonly associated with mucocutaneous and nail pigmentation and occur more commonly in patients with darker skin colours. These pigmentary side effects are usually dose dependent and reversible with dose reduction or drug withdrawal. It is particularly a common problem with zidovudine. Protease inhibitors, particularly indinavir, can produce retinoid-like side-effects such as alopecia, xerosis, cheilitis or paronychia. Approximately 30% of patients receiving indinavir develop two or more of these retinoid-like side effects which occur early during treatment but resolve when indinavir is stopped.[3]

ARVs can also cause metabolic abnormalities which produce a change in fat distribution known as the 'HIV lipodystrophy syndrome'. This describes either an accumulation or loss of fat which can sometimes occur together in the same patient. It usually becomes visible within 3 to 24 months after starting ARVs. Lipoatrophy or loss of fat affects the face, buttocks and limbs. The NRTIs, particularly zidovudine and stavudine, cause lipoatrophy: Stavudine causes lipoatrophy in 30% of patients taking the drug after approximately 2 years of treatment *(Figure 3)*. Lipohypertrophy or increased fat deposition affects the upper back, neck, breasts and abdomen and may be caused by protease inhibitors.[4] Lipoatrophy responds much better than lipohypertrophy to stopping the ARV that is causing the problem but recovering the fat loss may take several years.

These long term side effects of ARVs are important because they affect the appearance of HIV-infected patients and may reduce drug compliance.

Immune Reconstitution Syndrome (IRS)

IRS describes the development of a range of diseases which occur after ARVs have been successfully started ie. HIV-infected patients demonstrate an initial fall in viral load followed by an increase in CD4 T lymphocyte count. Since they are recovering immunologically we expect these patients not to develop any disease. However, a significant number of them surprisingly develop either a new disease or an existing disease deteriorates despite immune recovery: this is known as 'unmasking IRS' or 'paradoxical IRS'. Although the CD4 count in these patients is increasing their immune recovery is believed to be only partial and dysregulated (ie. not fully functional). Disease occurs because the recovering immune system is believed to be attacking subclinical antigens (infectious antigens, tumour antigens or self/host antigens).

An antigen is a part of a protein which can produce an immunological reaction

As HIV patients become immunosuppressed they pick up infections, many of which are subclinical (ie. have not been expressed clinically). Consequently, when they are started on ARVs they may have many infectious antigens and therefore infectious diseases are the commonest type of IRS-associated disease. IRS is also often known as Immune Reconstitution Inflammatory Syndrome (IRIS) because several IRS-associated diseases are very inflammatory

Table 1. Criteria for diagnosing an IRS-related disease [INSHI][5]

1.	**Patients must demonstrate that they are responding to ARVs ie fall in viral load & increase in CD4 count**
2.	**Patients develop either a new disease after starting ARVs OR a disease present before starting ARVs becomes worse after starting ARVs**
3.	**The disease cannot be explained by:** **a.** The expected clinical course of a disease being treated that was recognized before ARVs were started **b.** Side-effect of a drug **c.** Non-adherence and treatment failure

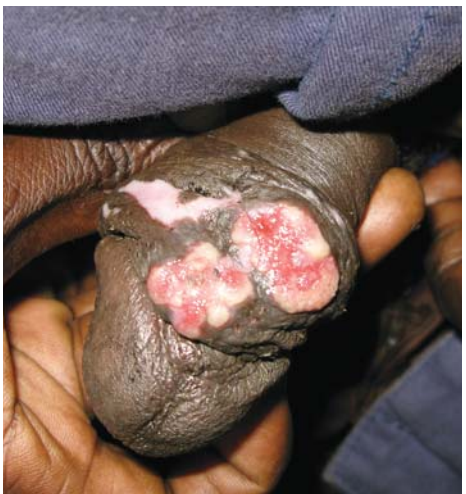

Fig. 4. IRS-related ulcerative genital herpes

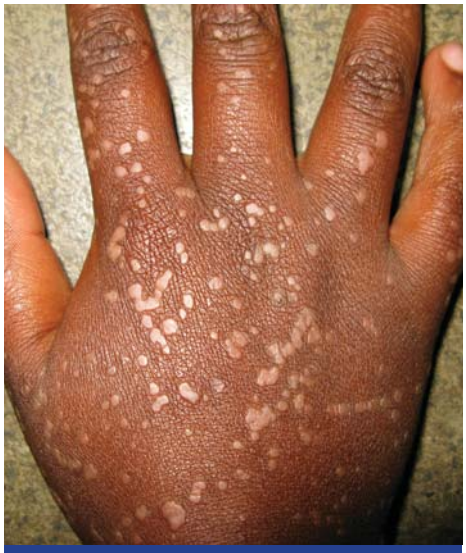

Fig. 5. IRS-related extensive planar warts

both clinically and histopathologically. However, since not all of the diseases are inflammatory IRS is probably a better term to use than IRIS. In order to be sure that a disease affecting HIV-infected patient is related to IRS and is not related to failure of ARVs and immunosuppression, there are certain criteria that help to make the diagnosis *(Table 1)*.[5]

Table 2. Common IRS-associated skin diseases

Infectious skin diseases
Mucocutaneous herpes simplex
Dermatomal herpes zoster
Mucocutaneous warts
Molluscum contagiosum
Widespread tinea corporis
Candidal angular cheilitis
Inflammatory skin diseases
Papular pruritic eruption
Eosinophilic folliculitis
Acne vulgaris
Skin cancer
Kaposi's sarcoma

The major risk factor for developing IRS appears to be a low CD4 count before starting ARVs, and studies have shown that IRS occurs most frequently in patients whose CD4 count is <50 cells/µl. A rapid increase in CD4 count after starting ARVs also increases the risk of developing IRS.[6] The majority of IRS-associated diseases occur within 3-6 months of starting ARVs although IRS is still possible for up to 2 years after starting ARVs.

IRS affects 10-25% of HIV-infected patients who are started on ARVs.[6] The most significant IRS-associated diseases are tuberculosis and cryptococcosis, which can both be serious and life-threatening.[5] However, the skin is the most commonly affected organ and more than 50% of IRS-associated diseases involve the skin.[7]

IRS-associated skin diseases

There are many skin diseases associated with IRS *(Table 2)*. Sometimes they are severe or atypical but often their clinical presentation is the same as in HIV-infected patients who are not on ARVs. The commonest IRS-associated skin diseases are herpes simplex and herpes zoster infection. IRS-related anogenital *(Figure 4)* or oronasal (ie. affecting the mouth and nose region) herpes tends to be severe, recurrent and sometimes responds poorly to treatment. However, IRS-related herpes zoster is usually uncomplicated dermatomal zoster. Mucocutaneous warts are also common with IRS, and include oral warts, planar warts *(Figure 5)* and genital warts. Genital warts can rapidly grow and become very extensive making then difficult to treat *(Figure 6)*. Like many other skin diseases seen in HIV-infected patients, molluscum contagiosum usually improves after ARVs have been started. However, sometimes they become worse because of IRS.[7]

Both leprosy and cutaneous leishmaniasis are very rarely associated with IRS: IRS can unmask new cases of leprosy or existing cases may undergo reactions, and IRS can cause a recurrence of previous cutaneous leishmaniasis or is associated with the development of the rare mucocutaneous or diffuse types of cutaneous leishmaniasis.[7]

Inflammatory skin diseases that occur with IRS include acne vulgaris, papular pruritic eruption (PPE) and eosinophilic folliculitis.

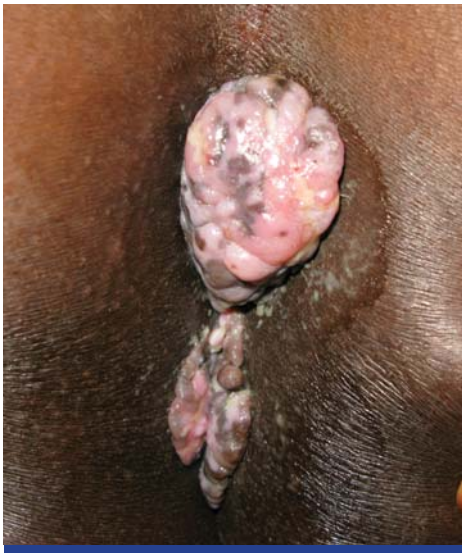

Fig. 6. IRS-related perianal warts

Of these, PPE is the most common IRS-associated inflammatory skin disease in tropical countries.[7]

The only skin cancer associated with IRS is Kaposi's sarcoma (KS). Generally, ARVs protect against developing KS and improve existing KS. However, some HIV-infected patients develop KS for the first time or existing KS lesions increase rapidly in size and number often with significant oedema after ARVs are started and there is evidence of immune recovery *(Figure 7)*. A recent study from Mozambique reported that 11.6% of patients started on ARVs developed IRS-associated KS, and that patients were more likely to develop IRS-associated KS if they already had KS before ARVs are started.8 If IRS-associated KS develops, patients should be changed to an ARV regimen that contains a protease inhibitor as this alone may be enough to cause the KS lesions to resolve. If this is not effective than they usually require chemotherapy.

Managing IRS-associated skin diseases

Most IRS-associated skin diseases can be managed with conventional treatments. ARVs must not be stopped. As the CD4 count continues to increase many IRS-associated skin diseases spontaneously improve or respond more quickly to treatment. It is important that clinicians recognize IRS-associated skin diseases and understand that they do not represent failure of ARVs.

Conclusion

ARVs have brought many benefits to HIV-infected patients but as this article shows they still suffer with many dermatological problems. Acute drug rashes, long term side-effects, and IRS-associated skin diseases may lead some patients to discontinue ARVs. Therefore, it is important that HIV-infected patients are properly counselled before starting ARVs about the risks of skin disease with ARVs, and that the majority of these diseases are not serious and improve if ARVs are continued. The WHO has recently recommended that HIV-infected patients begin ARVs at a higher CD4 count (it is now recommended that ARVs are started when the CD4 count falls to 350 whereas 200 was the previous recommended level). This should lead to a reduction in IRS-associated skin diseases.

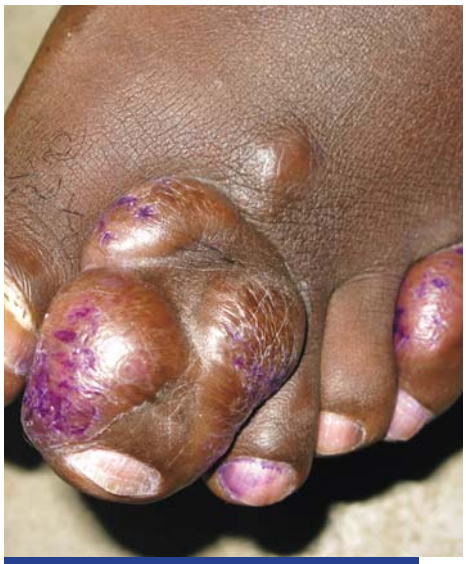

Fig. 7. IRS-related Kaposi's sarcoma

HIV-related skin diseases in the era of Anti Retro Viral drugs (ARVs) *continued*

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Sexually Transmitted Diseases in Ethnic Skins

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SUMMARY

This article will describe sexually transmitted diseases (STDs) in Ethnic Skins to enable clinicians and professional health workers to be able to spot symptoms and signs of STDs in people who have skin colouration different from the native populations of Northern Europe. Thus correct investigation, diagnosis, treatment and follow up, and appropriate action such as counselling and contact tracing may be initiated.

Classical descriptions especially of syphilis have evolved in Europe and North America from nineteenth century teachers in great metropolitan centres such as Vienna or Paris teaching on the poor of those cities whose skin colouring before the late twentieth century was predominately pale skinned. Thus illustrations in text books were of pale skinned patients until the entry of the United States of America into the Second World War, when photographs of venereal disease in black skins were widely used in instruction manuals for health workers. *(However even this generalisation does not always hold).*[1] In 1929 there were published photographs of stages of syphilis in Malays and Chinese from what was then the Dutch East Indies in "Voordrachten over Tropische Huidzieten", The work of J.D. Kayser[3] of the Tropical Diseases Institute of Rotterdam-Leiden.

Yaws/ Syphilis

Differences between venereal syphilis and yaws, described in detail since the World Health Organisation mass eradication campaigns of 1950s, have been found to have no great practical application. (Hackett CJ & Loewenthal LJA)[2], 1960. As they explained, "The skin has a limited number of Reaction patterns, so that similar lesions may result from different causes. Only a few lesions are truly diagnostic of yaws and often the repetition of the same pattern in an endemic area tends to be taken as evidence of yaws."

They also pointed out that in the case of yaws in endemic areas serologic tests are of little value in differentiating the treponematoses.

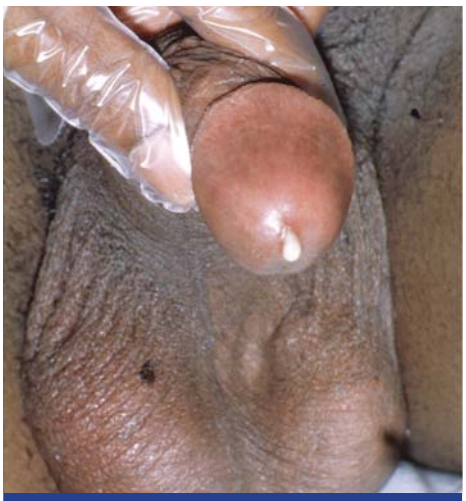

Fig. 1. Gonorrhoea –right epididymo-orchitis

Social Background

Racial and Genetic Factors

We must speak of groups of populations or ethnic groups, eliminating the term race not only because it does not exist on a biological plane but because it lacks all scientific foundation and is therefore useless on a clinical level.[4]

Tips for Clinicians and Health Workers when caring for patients

The care of STDS is very sensitive. However much braggadocio (boastful behaviour) is exhibited by young adults, especially males,

they often behave like small boys wanting loving help for STDs. This is even more so for ones of some ethnic backgrounds where the concept of confidentiality when caring for STDs may be little understood. A calm and welcome atmosphere needs to be given either by the individual specialist or the treatment clinic. Staff may need to be multi-lingual and an understanding of local ethnic minority customs and sexual mores is essential.

Examples that need to be considered are the care of refugees who may have endured awful torments, the young person from an intolerant religious background who is scared to tell the truth and worried about meeting someone who might know them. Ethnic minority young-men who come for help for STDs after having sex with men (MSM) may need very special care and sympathetic handling even for them to admit why they are seeking help in the first case. In some societies, Latin America, and the Caribbean and much of the Islamic World special opprobrium is heaped on the passive male. The active ones in MSM seem to have less opprobrium, but there may be female contacts that will also need to be examined and treated if necessary. In some ethnic groups, understanding of women's sexual rights may well not be understood in the Western liberal sense and havens of safety and confidentiality need to be made for them.

It is difficult for any woman to give a true sexual history if a male or come to that female relative or friend is standing right by them. The clinician should also be on guard for women who have been forced into becoming sex workers (prostitutes) against their wishes. He or she should be able to refer to social agencies who can aid such women immediately.

Clinical Differences in Ethnic Skins

There are atlases of STDs in black skins often based on experience in Africa. Signs will generally be more advanced than in the European situation where they are seen at an earlier stage. Generally speaking if an STD is primarily that of infection of mucous surfaces skin colour makes no difference to its presentation.

In those STDs affecting the skin, e.g. syphilis, chancroid, lymphogranuloma venereum (LGV), granuloma inguinale, herpes genitalis, condylomata acuminata, molluscum contagiosum, scabies and pediculosis pubis, and some presenting features of HIV skin disease there may be some features that may be overlooked, especially if the examining physician is not well trained or even worse makes a cursory examination or is prejudiced. Examples I shall give will be those found in a practice spanning 40 years.

THE GREATEST PROBLEM IS NOT BOTHERING TO LOOK. IT IS NOT USING THOSE WIDE ANGLED LENS – YOUR EYES.

Syphilis

***-Treponema pallidum-* Primary Stage.**

Consider primary syphilis for any ulcer on the genitals.

More than one condition may occur. So in any patient there may be primary syphilis, recurrent genital herpes, chlamydial infection, condylomata acuminata (genital warts), hepatitis B and risk of HIV infection at the same time.

- Always look at the lips, in the mouth the tongue and tonsillar region.
- Always examine the vulva, vagina and cervix carefully.
- Never forget the anus and anal verge.
- A so called haemorrhoid or fissure in ano may be a primary anal chancre.
- Always examine for regional lympadenopathy.

A careful full skin examination will exclude secondary rash of syphilis, scabies and other dermatoses. Also tattoos, tribal scars, piercings and needle marks.

Darkfield Examination for Treponema Pallidum from the penis or vulva may well make the diagnosis, but if the patient has already taken antibiotics or applied antiseptic the test will be useless. Darkfield Examination from the buccal cavity may well demonstrate commensal spirochaetes and is not useful. Remember that serologic tests for syphilis FTA-ABS or RPR may not be positive for about 2 weeks.

Differential diagnosis of Primary Syphilis

- includes herpes genitalis, chancroid, LGV, granuloma inguinale, Behcet`s syndrome, erosive balanitis, genital trauma such as zipper injury, genital drug eruptions and scabies.

Secondary Syphilis

. As a general rule the more pigmented the patient the deeper the colour of the lesions. Secondary syphilis may not always be classical and may be only present for a short time. Again the rule of examining the patient fully in a good light is paramount.

- Always examine the hair of the scalp and eyebrows for alopecia.
- Always examine the buccal cavity for mucous patches.
- Always look for condyloma lata in the angles of the mouth, the axillae, the inguinal regions, on the anterior genitalia and around the anus. Condyloma lata may be more gross in humid climates and also where hygiene/ washing facilities are poor.

The rash may not always look like textbook examples. Palmar and plantar syphilides may not be obvious in a dark skinned patient. Serological tests for syphilis are always positive in secondary syphilis, unless the patient is severely immunocompromised. Skin biopsy should only be done as a last resort in coloured patients because of the danger of subsequent keloid formation.

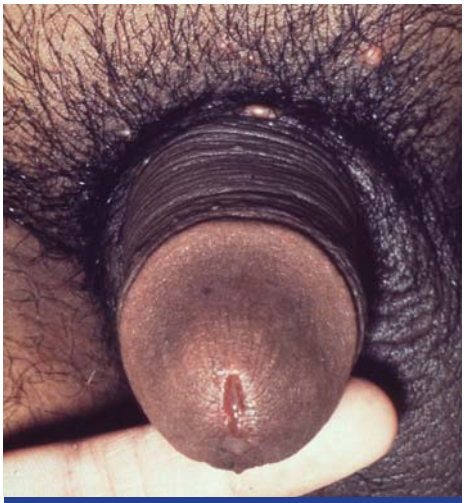

Fig. 2. Chlamydial urethritis and Molluscum contagiosum lesions

Fig. 3. Herpes Genitalis Ulcers

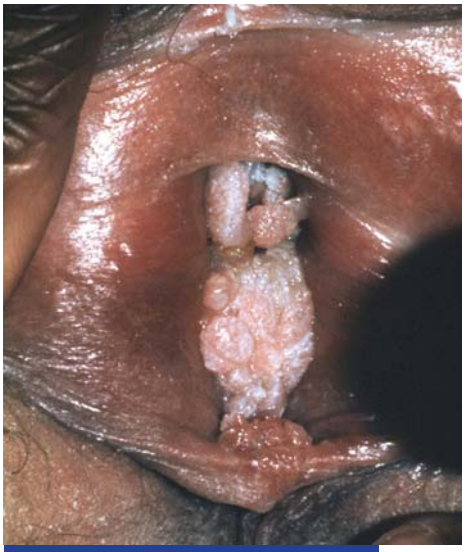

Fig. 4. Genital warts HPV in pregnancy

Differential diagnosis includes any other widespread rash. In my experience the most frequent conditions are psoriasis, ampicillin rash

of glandular fever, lichen planus, pityriasis rosea, febrile exanthemata, scabies, drug eruptions, and the sero-conversion rash of HIV. In practice in Western Europe nowadays tertiary or late congenital syphilis is very rarely seen.

Chancroid
– *Haemophilus ducreyi*

Sporadic cases are still seen in those who have recently travelled from Africa or the Indian sub-continent. Probably in the past many cases of genital herpes were misdiagnosed as chancroid before viral diagnostics were available. It has a short incubation period of 2 days to 3 weeks, often with painful shallow genital ulcer/s and regional suppurative inguinal adenitis – bubo. Inoculation of enriched blood agar media gives poor results unless taken with specific instruction and communication with the laboratory is needed for accuracy of diagnosis.

Donovanosis (Granuloma Inguinale)
– *Klebsiella granulomatis*

Again this is rare in western European practice. It is occasionally seen in travellers returned from the Tropics. In my practice it has always been from the Indian sub-continent. The lesion begins as a small erosion or ulcer expanding on the surface of the penis and spreading locally. It often becomes secondarily infected and smells. There is no inguinal gland enlargement. Diagnosis is made by biopsy from the edge of the lesion and finding Donovan bodies using Giemsa stain.

Chlamydia trachomatis
– LGV- L1, L2, L3 serovars

Until recently this had been a rare disease in Europe, diagnosed in travellers from Asia, Africa, South America or the Caribbean. The natural history was of a small transient ulcer at the point of inoculation, followed by firm, swollen and painful regional lymph nodes with fever and malaise and a late stage disease resulting from lymphatic damage including scarring and fistulae.

Starting in the Netherlands in 2003, but now throughout Western Europe, homosexually transmitted LGV (Van de Laar et al. 2004)[5] with proctitis as its main element has been recognised frequently. It usually occurs in men who have had unprotected anal sex often with concomitant early syphilis and HIV infection. This may of course include males of ethnic minorities. Specialist investigation, treatment and counselling are recommended. Diagnosis is made by the detection of C. *trachomatis* specific DNA belonging to LGV serovar 1, L2, L3. The first step is the detection of C. *trachomatis* using a nucleic acid amplification Test (NAAT) which will detect all serovars including LGV serovars. Then the expertise of a sexually transmitted bacteria reference laboratory is needed for confirmation.

Herpes Genitalis – This is due to *Herpes virus hominis* types I and II. Traditionally type I occurs on the lips and type II on the genitalia. In practice both occur frequently in the genital area.

Herpes simplex infection is often under-recognised, either being considered to be nothing more than an inconvenient minor temporary sore or simply irritation on the lips, penis, vulva/vagina or anal canal. It may be confused with genital ulcerative drug eruptions, especially due to the long acting sulphonamides, and tetracyclines and as part of erythema multiforme.

As a feature of HIV infection it is common either in its milder forms or as severe lesions around the anus, vulva or penis which do not heal but persist and ulcerate. It often spreads to the buttocks. As it is not as obvious as syphilis it is often not shown to physicians.

Genital Warts - Condylomata Acuminata- Human Papilloma Virus –many genotypes – These are low risk and rarely associated with invasive cervical cancers.

High risk types are oncogenic which are caused through direct sexual contact and occasionally from mother to child during childbirth. They may become large in pregnancy, usually regressing after birth. They may be very large and difficult to eradicate in HIV immunosuppresed patients and be a sign of HIV disease but, once good immune control is made with immnosuppresive therapy, may regress well.

They may become quite large and often pigmented in black patients.

Molluscum Contagiosum
– Molluscum contagiosum virus, a pox virus

In ethnic minority patients they are not uncommon.

There are 2 main groups.

- In the pubic region of men who for religious reasons shave their pubic hair. In the small cuts the virus settles with the resulting little dome shaped papule with an umbilicated centre often in groups of lesions. They are frequently mixed with genital warts both seemingly become pigmented. They occur on the shaft of the penis and scrotum as well.
- As a sign of HIV disease, often in non genital areas such as the eyelids, face, chest, loins, arms. These may be very widespread. It is a frequent sign of HIV disease in sub Saharan Africans.

Scabies –*mite Sarcoptes scabiei*

In young male adults it often presents not only as itching, causing burrows in classical distribution, but on the penis and scrotum and buttocks. In ethnic minorities living in cramped and poor housing it may spread to all the other inhabitants. Public health services may need to be utilised in eradication.

Severe crusting may occur on the hands and around the nails, elbows, knees, ankles in Crusted (Norwegian) scabies in old people in institutions and as a sign of HIV disease.

Pediculosis Pubis – Crab lice

These may be difficult to see in black patients. On the other hand in hairy ethnic groups such as Arabs, Turks, Persians, Afghans and Northern Indians they may be widespread, also occurring on body, axillary, back, moustache and eyelash hair. They are not to be confused with body lice.

Sexually Transmitted Diseases in Ethnic Skins *continued*

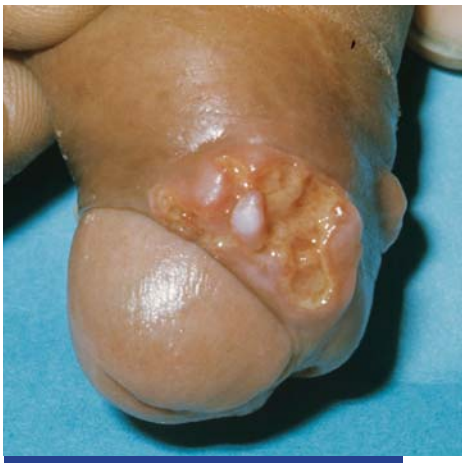

Fig. 5. Chancroid young Indian male

HIV Infection

This is not the main subject of this article. There are however skin and genital situations which must make the observer consider HIV infection such as herpes zoster, severe and chronic seborrhoeic eczema, molluscum contagiosum, papular pruritic eruption, severe herpes simplex, severe human papilloma infection, scabies and severe drug eruptions.

Above all one should think in a critical and sensitive way not as a routine of the patient of ethnic origin in front of one and try to evaluate risk factors for STDs.

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CORRIGENDUM

In issue 10 (pages 21 and 23) the quiz illustrations attributed to Dr Kassahun Bilcha were in fact kindly supplied by Dr Mike Waugh. The editors would like to apologise to both authors for wrongly attributing these pictures. PB/CRL

Defining Children's Skin Needs: A Rationale For A Community Dermatology Project In Ankober District, Northeastern Ethiopia

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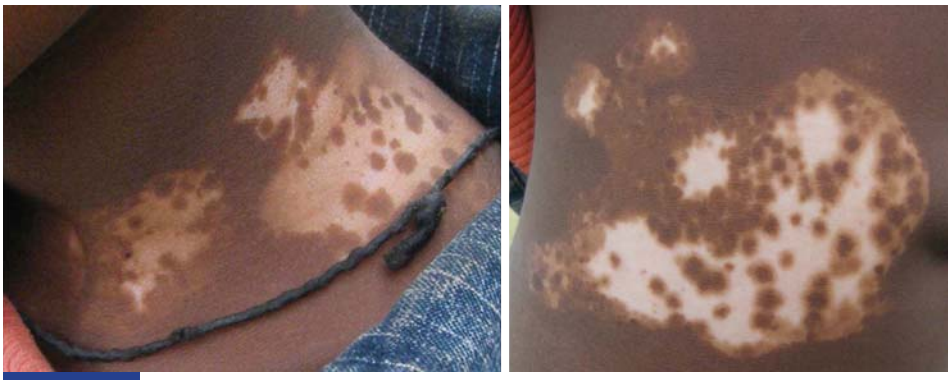
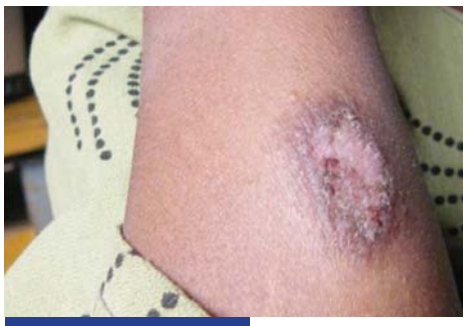


Vitiligo

Introduction

A preliminary epidemiological survey for prevalence rates of skin conditions in children was undertaken, based on the importance of epidemiological research as a tool to plan, implement and adapt effective health care programmes to a community in the process of radical transformation.[1,2] The role of health care workers in addressing the dermatological needs of the paediatric population of a poorly served rural area, should not be underestimated in the search for an effective, rapid, participatory and decentralised community based programme.[3] As Ryan argued, because most of the people who take care of skin diseases are not dermatologists, it is necessary to analyse exactly who needs to be trained and which conditions of the skin need to be identified.[4]

In Ethiopia, 22 dermatologists serve a population of 80 million. In Nigeria, 30 dermatologists serve over 120 million inhabitants.[5] Moving to another continent, in India there are 2.2 dermatologists per million population,[6] while in Nepal there are approximately one for every half million population.[7] In fact, about 3 billion people living in remote areas of 127 developing countries are deprived of basic dermatological services.[8] Therefore, in the lowest socio-economic settings where dermatological health care is a privilege difficult to access,[9] reducing morbidity and minimising the economic burden has to be handed down from professionals to the community's representatives through affordable and appropriate low-cost therapies.[10] Skin conditions and diseases create a burden shared by almost all transitional societies worldwide, where high prevalence figures for skin diseases, ranging from 21% to 87% were reported.[11] In all developing countries, the strong correlation with poverty appears undeniable. However, it still requires pro-active behaviour of the community towards skin care. The care given to the largest and massively exposed organ of the body, is in some respects, a public arena where everybody could be invited to play a part, in spite of his age or educational background.



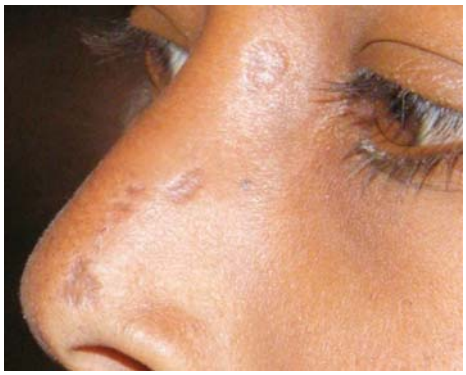
Leishmaniasis scars

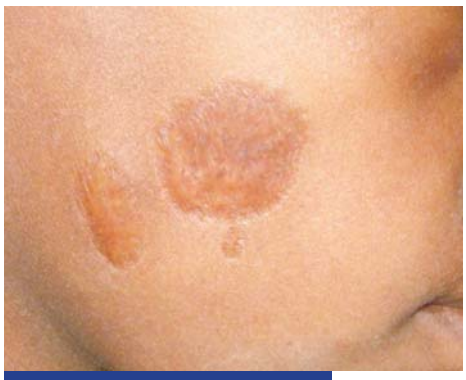
We started with school children, since schools in every village can be an important means of social change but, also, for establishing health rules in communities.[12]

The aim of the present research was, therefore, to assess schoolchildren's skin conditions, and to develop a rationale of intervention for the community dermatology programme - to be carried out in the Ankober area, North Shewa, Ethiopia.

Subjects and Methods

Ankober District is one of 105 Districts (Woreda) in the Amhara National Regional State of Ethiopia, with an estimated population of 97,022, of whom 48,187 are males and 48,835 are females. The context is mainly agrarian (working the land) with only 6,885 urban dwellers. There are 19 villages and 2 towns, namely Gorobela and Aliu Amba, with a population of 4156 and 7050 respectively. Children under 15 years of age are 17,463 and account for 18% of the total population.

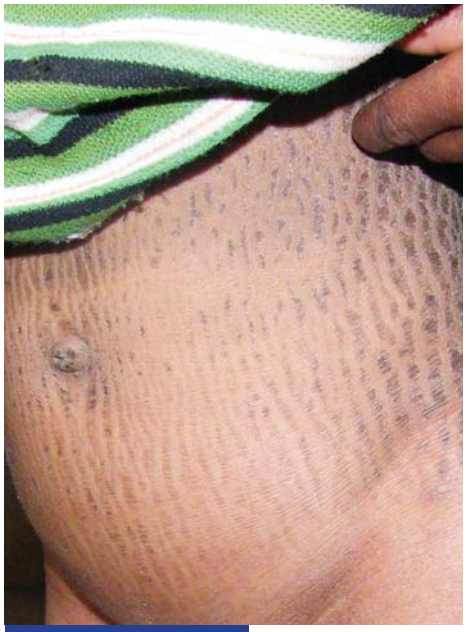




Leishmaniasis: active lesions

Ankober area is served by one health station and six primary health posts. In order to implement the health extension programme, 36 health extension workers were assigned to

Defining Children's Skin Needs *continued*



Ichthyosis

serve 18 settlements and towns. The district educational sector is provided with 37 formal elementary schools (grades 1-8), one formal high school (grades 9-10) and 6 non formal schools (grades 1-4).

After the Institutional Ethical Review Board of Gondar University had approved the project and its ethical soundness, a team composed of a dermatologist from Gondar University, Faculty of Medicine and two members of IPO (Increasing People Opportunity), the non-profit making organisation in charge of the community dermatology project, visited children aged from 3 to 10 years. The project is locally supported by the NGO AWDA (Ankober Woreda Development Association) which mobilised local administration and schools to co-operate actively.

The schools were selected in the District towns, namely Balambaras Yilma School and Aliu Amba School. The District has a very distinctive morphology, mostly including in its boundaries all the agro-climatic zones of Ethiopia. Driving from zonal capital, Debre Berhan (44 km distant), the road reaches the highest plateau (called 'wurch') characterised by afro-alpine meadow and steppe (from 3200 to 3700 metres above sea level). Then, it slopes down to Dega (2300-3200 metres) and Weyna Dega (1500-2300 metres), the most fertile areas for crop production in the country. Finally, the road reaches the 'kola', the Acacia-Commiphora bushland which is the gateway to the Afar lowlands. Balambaras Yilma School is located at 2900 metres above sea level while Aliu Amba is at 1600 metres altitude with very different ecological and climatic conditions.

Examinations were performed in an empty classroom and data recorded on an EPIinfo electronic database designed for the study, both for contagious and non contagious skin diseases.

Table 1: Point prevalence of skin conditions in 587 Ethiopian schoolchildren aged 3-10 years

Skin Conditions	Gorobela n=284		Aliu Amba n=303		Total Cases Overall n=587	
	Frequency	%	Frequency	%	Frequency	%
Tinea capitis	92	32.4	87	28.7	179	30.5
Tinea corporis	64	22.5	32	10.6	96	16.4
Tinea unguium	7	2.5	-	-	7	1.2
Pityriasis alba	53	18.7	21	6.9	74	12.6
Pediculosis	45	15.8	73	24.1	118	20.1
Scabies	1	0.4	1	0.3	2	0.3
Leishmaniasis	11	3.85	22	7.25	33	5.61
Pyoderma	16	5.6	19	6.3	35	6.0
Naevus	11	3.9	12	4.0	23	3.9
Eczema	9	3.2	4	1.3	13	2.2
Wart	12	4.2	6	2.0	18	3.1
Herpes simplex	8	2.8	7	2.3	15	2.6
Molluscum contagiosum	-	-	1	0.3	1	0.2
Vitiligo	-	-	2	0.7	2	0.3
Lichen planus	4	1.4	-	-	4	0.68
Others	5	1.75	5	1.65	10	1.71
cheilitis	-	-	1	0.33	1	0.17
chicken pox	1	0.35	-	-	1	0.17
childblain	1	0.35	-	-	1	0.17
ichthyosis	1	0.35	-	-	1	0.17
keloid	-	-	1	0.33	1	0.17
keratosis pilaris	-	-	1	0.33	1	0.17
osteomyelitis	1	0.35	-	-	1	0.17
otitis externa	-	-	1	0.33	1	0.17
p. versicolor	1	0.35	-	-	1	0.17
skin tag	-	-	1	0.33	1	0.17

Results

Of the 587 children examined, 453 (77.2%) had one or more concomitant visible skin conditions. The prevalence breakdown is shown in Table 1. The most common skin conditions and their point prevalence were infectious diseases (66.1%) and dermatitis/eczema and related diseases (15.48%). No significant differences were observed in the overall point prevalence according to school provenance, except for Pityriasis alba (p=0.00002) and Tinea corporis (p=0.00009) which prevalence showed a predominance at higher altitude in Balambaras Yilma School (2900 metres above sea level). However, to determine specific clustering of skin diseases, a more extensive study, taking into account several parameters is considered necessary. Dermatological diseases of infective origin were mainly represented by fungal infections (48.3%). Of the fungal infections, Tinea capitis was the most represented accounting for 63% of the cases. Many children were found to be affected by concomitant fungal infections. The second more frequently registered problem was Pediculosis capitis with 118 children affected. A noticeable gender frequency difference was observed (99 females (30.3%) and 19 males (7.3%)). We also noted a prevalence figure for Pityriasis alba of 12.6%, an anomaly of pigmentation which can be associated with atopy. It is worth mentioning that 33 cases of cutaneous leishmaniasis accounting for 5.6% of the total skin conditions found, included lesions which were still active and self-healing. Because of the small number of cases, it is not possible to say anything more specific about transmission sites and foci.

Discussion

There are few epidemiological studies which have measured the point prevalence of skin diseases in school children in developing countries. The useful information gathered from these studies could effectively help

in devising educational programmes and practical primary health care policies. In our work we found a high percentage of skin diseases and conditions (77.2%), higher than those reported in other African countries.[13] Even if we agree with Dr Maldonado and try to eliminate conditions such as Pityriasis alba which can 'contaminate' the statistics,[1] the data are still impressive, accounting for 64.6% of the children examined.

It has been said that health care system failures in responding to several conditions perceived as trivial, may lead to patient reliance on empirical and ineffective or even harmful treatments - provided by local traditional healers or untrained general medical practitioners. This may add to the financial burden of poor families, especially in developing countries.[14] Therefore, recognising the high incidence and heavy impact it could have on physical appearance, we consider that Pityriasis alba should be included in the protocol which will be defined and studied further.

Our prevalence survey suggests the presence of 24 skin problems, with the majority represented by 6 diseases/conditions. According to Pareto's principle,* it will eventually reduce the required intervention and might allow us to focus our efforts on specific training to front line health workers. Fungal infections were found to be the top ranking problem, accounting for 48.3% of the total. Working within a low social-economic setting, the 'acceptable minimum morbidity' concept becomes an unavoidable factor - to plan not only how to treat but who to treat, especially when considering the cost of cure using the cheapest effective treatment[15] of $3.5 USD for Tinea capitis which is present in almost 1 out of 3 children. This analysis is reflecting the reality, indeed, since griseofulvin treatment (which was selected by our dermatologists' staff) costs around $3.88 USD, when available, and purchased at the most convenient price.

**** Pareto principle: Approximately 80% of effects come from 20% of the causes***

It is worth noting that, unexpectedly, we found 33 cases of cutaneous and muco-cutaneous leishmaniasis, while in the period from June 1995 to July 1997 only 4 patients of 1505 were recorded as having both unspecified onchocerchiasis or leishmaniasis in hospital referrals to the capital.[16] According to an early statistical analysis of a hospital in Addis Ababa, during 1977,[17] leishmaniasis cutis (sic) was not registered, although it was said to occur in almost all provinces of Ethiopia. The frequency was estimated at 10 to 20%, based on results obtained in a western province, confirming also the fact that kala-azar is transmitted in the lower arid regions only, whereas cutaneous leishmaniasis occurs on the plateau at altitudes between 1200 and 2200 metres. While screening adults in Ankober area, the team noticed severe leishmaniasis cases due to immunodeficiency of the patient. Careful planning and further studies on how to limit such contagious skin diseases is considered highly necessary.

In conclusion, the high prevalence of skin diseases, consistent with the poor hygienic conditions observed and lack of knowledge, make a community dermatology intervention urgent. Many lesions were hazardous and the discomfort, as reported by patients, might have lasted for a long period, since improper or ineffective treatments were tried out. The demand and the interest

Tinea capitis: favus

of the parents and children themselves seem to confirm the need to enhance the expertise of the health extension workers - to address main problems through appropriate training extended to school educational programmes. Because of the complete lack of medicines, devising inexpensive and quality treatment protocols, based on so-called low-cost human technologies (capacity building) or local production in galenic* laboratory, seems to be the only solution to guarantee the access to basic dermatological drugs.

Acknowledgments

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**** Galenic- the principles of preparing and compounding medicines in order to optimise their absorption***

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Buruli Ulcer (Mycobacterium ulcerans infection)

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Fig. 1. Mycobacterium ulcerans lives in this kind of environment

Buruli ulcer (also called Bairnsdale ulcer or Searle's ulcer) is one of the frequently unrecognised and neglected diseases of the tropics and subtropics. It is an infection of the subcutaneous tissues caused by *Mycobacterium ulcerans*, an organism similar to that causing TB and leprosy. It was first described in Australia in 1948[1] and 13 years later in Buruli county in Uganda,[2] hence its name. It has been reported in more than 30 countries in Central and West Africa, Australia, Indonesia and Polynesia. In Africa it is endemic in Angola, Benin, Burkina Faso, Cameroon, Côte d'Ivoire, Democratic Republic of Congo, Equatorial Guinea, Gabon, Ghana, Guinea, Liberia, Nigeria, Republic of Congo (Brazzaville), Sierra Leone, Togo and Uganda.

It occurs mainly in poor rural communities living close to slow flowing rivers, dirty ponds *(Figure. 1)* and permanent swamps, where the Mycobacterium ulcerans is found in aquatic insects in the mud.[3] The organism gets into the skin through minor abrasions, penetrating injuries[4] or bites from aquatic insects. It is not spread from person to person.[5]

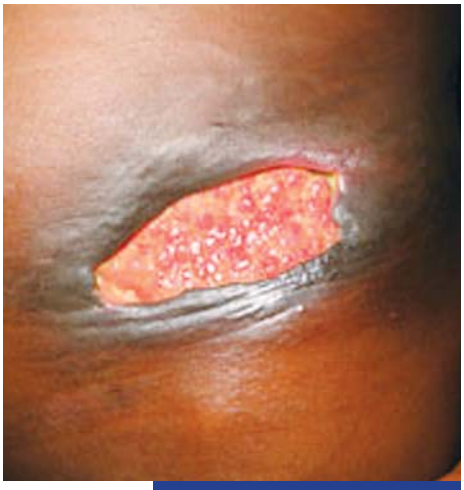

Photo: Ibrahim Vandi

Fig. 2. Buruli ulcer on thigh

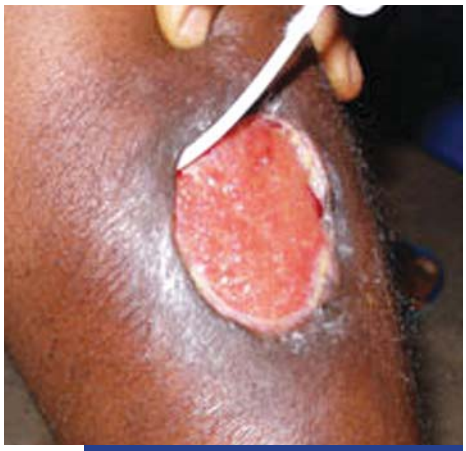

Photo: Ibrahim Vandi

Fig. 3. Undermined edge of Buruli ulcer on lower leg

Clinical features

Infection begins with a single painless subcutaneous nodule which often goes unnoticed.[6] The nodule may heal on its own or break down to form an ulcer *(Figure 2)* with undermined edges *(Figure 3)*. The ulcer may also heal spontaneously or it may spread extensively *(Figure 4)*, sometimes involving the whole of a limb and sometimes spreading to other areas of the body. The leg (60%) and forearm (30%) are the commonest sites involved and children are affected more than adults. At all stages of the disease the patient remains afebrile and otherwise well.

Problems if untreated

- Extensive scarring
- Restricted movement of limbs due to contraction deformities
- Osteomyelitis
- Long hospital stays leading to loss of schooling in children and loss of income in adults.

Diagnosis

- In endemic areas it is usually diagnosed clinically.

Laboratory diagnosis

- Take a smear from the necrotic base and stain with Ziehl-Neelson stain. See clumps of acid fast bacilli, or
- Take a biopsy – histology will show necrosis of the deep dermis, subcutaneous fat and deep fascia with very little in the way of inflammatory cells. Clumps of acid fast bacilli are seen within the necrotic tissue.
- Culture of smear or biopsy on Löwenstein-Jensen medium at 32^{0}C for 6-8 weeks, but this is only successful in less than 50% of cases.[5]
- Polymerase chain reaction (PCR) can identify DNA sequences specific for Mycobacterium ulcerans[7] but this is rarely available in endemic areas.

Pathogenesis

- *Mycobacterium ulcerans* produces a toxin (mycolactone)[8] which causes the necrosis.

Treatment

- Small nodules and ulcers can be excised surgically.
- For large ulcers surgery is rarely practical. Instead treat with an 8 week course of rifampicin and streptomycin or rifampicin, streptomycin and clarithromycin *(Figure 4)* which can be done as an out ptient. This stops the ulcers spreading and starts the healing process *(Figure 5)*.
- Surgery may be needed to remove slough.
- Skin grafts may be needed later to speed up healing of large defects.
- Physiotherapy is needed to prevent deformities

Photo: Ibrahim Vandi

Fig. 4. Large Buruli ulcer over knee

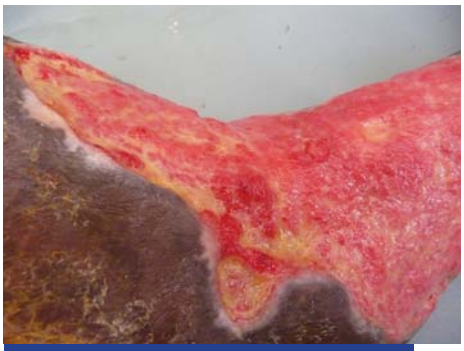

Photo: Ibrahim Vandi

Fig. 5. Buruli ulcer beginning to heal after treatment with rifampicin and streptomycin

Prevention

- Keep children away from playing in swamps.
- Wearing of long trousers provides good protection on the legs.
- BCG vaccination may give some protection.

Classification of ulcers by size	
Group 1:	**A single lesion <5cm in diameter**
Group 2:	**A single lesion 5-15cm in diameter**
Group 3:	**A single lesion >15cm in diameter and/or multiple lesions at critical sites (breast, eye, genitalia, osteomyelitis).**

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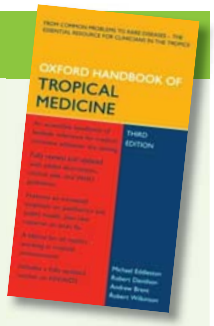
BOOK REVIEW



OXFORD HANDBOOK OF TROPICAL MEDICINE (3rd ed.),

ed. Eddleston M, Davidson R, Brent A, Wilkinson R. Oxford University Press 2009.

This remarkable book started as the brainchild of two junior doctors who perceived the need for a clinical handbook relevant to the developing world, including WHO recommendations in a digestible format. The third edition now has 48 international expert contributors but still maintains a youthful freshness and pragmatism. It shows no signs of middle-aged spread and fits comfortably in a white coat pocket (where such garments still exist).

The text covers adult and children's medicine in its broadest sense, incorporating medical ophthalmology and mental health. This new edition contains a masterly update on HIV/AIDs. Blank pages are dotted throughout the book – ideal for jotting down notes.

The dermatology chapter (section editor Prof Terence Ryan) has been revised, and provides a succinct and authoritative account of important skin disease, with practical approaches to treatment in a low-cost setting. There are helpful line drawings and some good black and white illustrations. Some skin infections are found in the subsequent chapter. Possibly future editions might be enhanced by moving skin fungal infections to the dermatology chapter and by mentioning the association between HIV/AIDs and exacerbation of psoriasis. It could be helpful to include simple advice on taking skin snips for onchocerciasis and fungal scrapings, but these are very minor quibbles!

This tough little book maintains its reputation as an easily accessible mine of information, and it richly deserves a place in the backpack of every doctor working in the tropics.

Chris Lovell

Research reports from trainees in Community Dermatology at the Regional Dermatology Training Centre (RDTC) in Moshi, Tanzania

Focus on Leprosy:

Disability at Registration and Contributing Factors

RDTC

Sr. Sarah K. Nandita

studies the **Prevalence of disabilities among leprosy patients at the time of registration at the St. Francis Hospital in Mayuge District, Uganda.**

She used a simple random sampling techniques in a cross-sectional analytical study and included 100 patients (61 males, 39 females) using available information from registered patients files (unit register for 2003 – 2008).

Her findings pointed out that 82 patients (82%) presented already with disabilities at time of registration. Of these 40 (40%) presented with WHO disability grade 1 and 42 (42%) with grade 2.

She didn't find any association with age, sex, marital or occupational status nor with educational level of the patient.

Again, there was, however, a strong association with a late medical care seeking behavior in 72 patients (87%), who reported later than 3 months after onset of the disease. The author speculated that reasons for the delay to report to health facilities in the context of her hospital would most likely be dependency on traditional healers because of long distance to health units.

An important finding was that 18 (22%) of disabled patients didn't experience dramatic events with clinical attacks of acute or subacute neuritis (not troubled by pain) but insidious onset with gradual progressive nerve function impairment ("quiet nerve paralysis"). Very little is known about the natural history and epidemiology of "silent neuritis" in African settings.

The author stressed the need for more community awareness campaigns, intensified case findings to enhance early treatment through mobile skin clinics and reinforcement of training of health workers and traditional healers by District TB / Leprosy Coordinators.

Catherine Flora Msukwa

looked into the **"Extent of late reporting for Multi-Drug Therapy (MDT) of leprosy patients attending skin clinics in Nkhotakota District in Malawi"** by carrying out a cross-sectional analytical study with a cluster sampling technique. She interviewed 73 respondents (55% male) in the catchment area of four health centres in the Nkhotakota District along Lake Malawi and assessed their disability grades.

She defined "late" as reporting later than three months after onset of symptoms. Applying this definition she found that 86.3% had reported late. Of these 29% had disabilities (either Grade I or II) which was in contrast to the early reporters (13.7%) with no disabilities. Analyzing the contributing factors for the delayed reporting, distance to nearest health facilities, employment and marital status, stigma and general knowledge of the disease were not associated. However, 81% of those presenting with disabilities were first attended and kept by Traditional Health Care Providers (THCPs).

She reemphasized the importance of early reporting for early initiation of MDT and early recognition of reactions by training and involving those, who work close to the communities like Environmental Health Assistants and Dermatology Officers (Community Dermatologists) with training emphasis on THCPs.

Faki Yussuf, from Pemba Island (Zanzibar / Tanzania)

analyzed in an older cross-sectional study the factors, which contributed to the very high rate of disabilities of 95 patients (males 61%) who were registered from 1989 – 1993. He found a disability rate of 61% (58 patients) with a strong association to late reporting (defined as reporting after 6 months of onset of disease) in 79%. Main contributing factor for this was long distance from treatment centres in 70%.

In another cross-sectional survey **Riziki Mwangolu** re-examined in the coastal region of Kenya 96 (60% males) registered leprosy patients in villages and found that 43 (45%) had already at booking date reported with disabilities, whereby 50% of these were attended by traditional healers for a longer period.

In her analysis of main contributing factors she found a strong association with lack of education (66%), perception of leprosy to be due to witchcraft (53%), duration of leprosy before registration (56%) and distance between patients home and treatment centre (63%).

Summary remarks

All four studies carried out in different countries and years show more or less unacceptable high disability rates at registration with strong relation to late reporting to modern (biomedical) health facilities.

An analysis of contributing factors shows that mainly, but not exclusively, long distance between patients' home and treatment facility may have tempted the patient to go to the nearest health providers, which are the ubiquitous traditional healers, who seem to delay the patients reporting. In addition, low level of education led at least in one report to wrong perception of the disease contributing to the wrong choice of treatment with further delay.

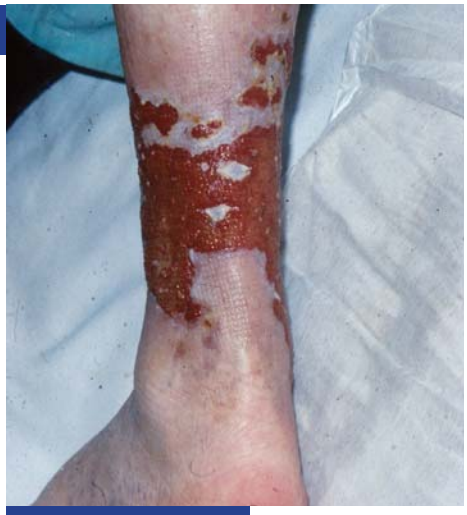
TROPICAL ULCERS Forum

Kate Short *Consultant Dermatologist*
The Royal Victoria Infirmary, Newcastle upon Tyne

1. VENOUS ULCERATION

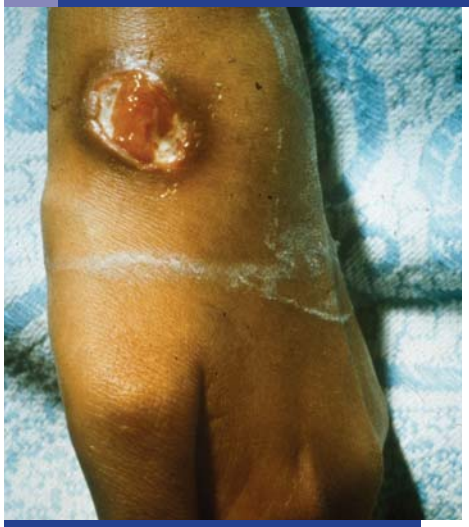
A 54-year-old man presented with an ulcer that had failed to heal for 26 years. He had been treated with a number of topical agents only. The ulcer was painful and produced a large volume of exudate. There had been 3 previous episodes of cellulitis requiring antibiotic therapy. On examination the ulcer was located over the medial malleolus and measured approximately 3cm by 3cm. The edge was sloping and the wound bed was covered with slough. There was little evidence of healthy granulation tissue. The surrounding skin showed evidence of atrophie blanche and there was evidence of lipodermatosclerosis with some swelling of the ankles. Fungal scrapings taken from between the toe webs were positive for dermatophytes. Dorsalis pedis was palpable bilaterally and the Ankle Brachial Pressure Index (ABPI) was 1.12 on the right and 1.00 on the left. A diagnosis of non-healing venous ulceration was made. A Hydrocolliod dressing was selected to absorb exudate and as the ABPI was ≥ 1.0 the patient was put into multilayer compression bandaging. Initially, the bandages were changed twice weekly but as volumes of exudate reduced this was reduced to once weekly. When the ulcer healed the patient was prescribed compression hosiery (Grade 2 or 3) to be worn during the daytime for the rest of his life. Pain control was optimised with oral analgesics. Topical antifungal therapy was prescribed to treat Tinea pedis which was the presumed portal of entry for recurrent soft tissue infections.

Venous ulcers are the most common cause of lower leg ulceration with estimates ranging from 37-81%.[1] The 'gold-standard' treatment is sustained, graduated compression therapy with multi-layer compression bandages. Devices such as 'Thera-Band' resistance bands (a length of elastic tubing roughly equal to the length of the limb being exercised) can be used to improve ankle range of motion in long-term venous ulcer patients and promote healing.[2] Maffei et al studied the prevalence of varicose veins (VV) and of chronic venous insufficiency (CVI) in 1755 adults over 15 years of age in Brazil. They suggested that the prevalence of VV and CVI was higher or as high as that found in developed western countries and proposed that studies of these conditions should be included in epidemiological surveys of other developing areas or countries so that preventative measures and early treatment could be included in health planning for these areas with the aim of reducing morbidity.[3]



Venous Ulcer

2. AN ULCER ASSOCIATED WITH TB



Tuberculosis Ulcer on the hand - Courtesy of THET

A 35-year-old woman presented with an ulcer on the lower leg which had been present for 6 months. It had begun as a skin-coloured nodule that had ulcerated after a few weeks. She felt unwell with a history of malaise, weight loss and night sweats. On examination she was pyrexial. The ulcer measured 1.5 by 2.0 cm. The edge was irregular and undermined but the wound bed had islands of granulation tissue. The surrounding skin was normal. Exudate was minimal and the ulcer was uncomfortable but not painful. A biopsy was performed which showed an infiltrate of epithelial cells, Langhans cells and mixed inflammatory cells including lymphocytes, plasma cells and polymorphonuclear leucocytes. Tissue culture was positive for *M. tuberculosis*. Chest X-ray, sputum culture and early-morning urine samples were sent to exclude extracutaneous infection. Anti-tuberculous chemotherapy was given for a period of 8 weeks in the form of quadruple therapy (isoniazid, rifampicin, pyrazinamide and ethambutol) followed by a continuation phase consisting of isoniazid and rifampicin twice weekly for 16 weeks. The wound was dressed with a non-adherent dressing secured by a conforming bandage.

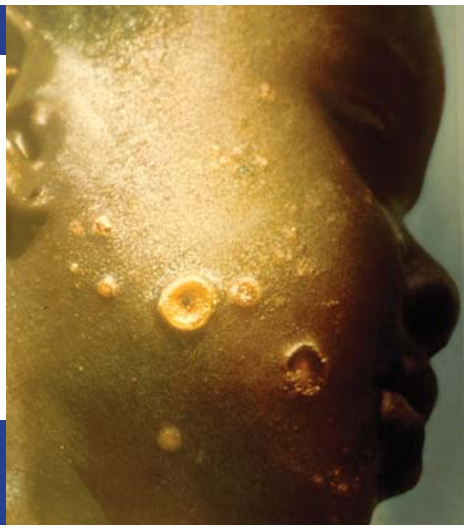
Tuberculosis (TB) has been part of human history since prehistoric times. Recently, however, there has been a worldwide explosion in its incidence, and consequently a resurgence of cutaneous TB.[4] This phenomenon has been attributed to the HIV epidemic, the emergence of resistant strains of *Mycobacterium tuberculosis*, the rise in immunosuppressive therapy, the ease of migration of peoples, and a decline in TB control efforts superimposed on the pre-existing factors of poverty and malnutrition.

3. AN ULCER ASSOCIATED WITH SICKLE CELL DISEASE

A 20-year-old woman presented with a 12 month history of an ulcer on the medial malleolus. She had been diagnosed with sickle cell disease in childhood and had had recurrent episodes of painful ulceration since the age of 14 years. The ulcer was excruciatingly painful with a punched-out edge. The wound bed was dark red, suggestive of unhealthy granulation tissue, and the surrounding skin showed multiple scars from previous ulcers. The patient was admitted to hospital for pain relief with opiate/opioid analgesia plus or minus a tricyclic anti-depressant. Swabs, taken to exclude bacterial infection, were negative and the wound was dressed with a non-adherent dressing. The ulcer healed relatively quickly and the patient was prescribed compression hosiery. To minimize trauma, susceptible areas of skin were protected e.g. with dry gauze dressings and shoes were advised.

Most patients with leg ulcers due to sickle cell disease are suitable for management in the community. Adequate pain control is essential and good local hygiene is essential to prevent bacterial proliferation. The aim of dressing selection in managing patients with sickle-cell ulceration is to ensure non-adherence, preventing tissue trauma, moist wound healing and reduction in wound pain.

(Continued on the back page)



Sickle Cell Disease - Courtesy of Barbara Leppard

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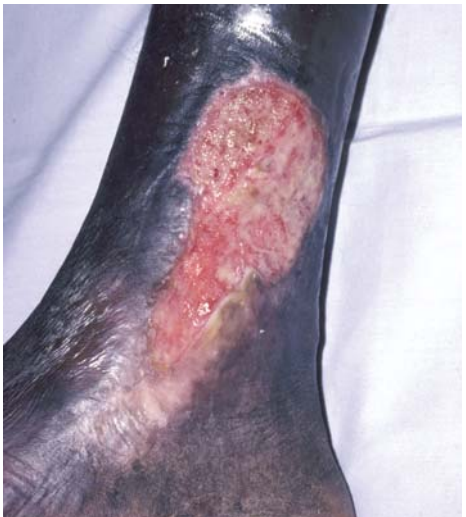
Please tell your friends – it all helps to finance the journal! *Chris Lovell*

4. A TROPICAL ULCER (YAWS)

(TROPICAL ULCERS Forum *Continued from page 15)*

A 45-year-old man from Cameroon presented with a 30-year history of non-healing ulceration to his lower leg. Treatment with topical agents, compression bandaging and skin grafting had been unsuccessful. On examination there was a small ulcer with indurated edges and a hyperpigmented surround. The wound was probed and found to extend deeply into the subcutis. The wound was painless with minimal exudate and no malodour. He reported that many of his family and community members had similar non-healing wounds. ABPI was normal. A biopsy showed marked acanthosis and papillomatosis with epidermal oedema and a predominantly neutrophilic infiltrate. Serology was positive for *Treponema pertenue*. The patient was treated with 1.2 megaunits of benzathine penicillin with ulcer healing achieved within 3 months.

Yaws is not a sexually transmitted disease but a childhood infection, usually before puberty. The disease is spread through small abrasions following skin contact with an infectious lesion. It progresses through 4 stages: a primary lesion, early secondary and relapsing secondary with periods of latency before relapses, a latent period and a late destructive stage.[5]



Yaws - Courtesy of Barbara Leppard

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