lumbar puncture was not performed. She had no signs of congenital syphilis. She had been married twice, the second time to a sailor, and had been sexually abused by a cousin at the age of 8. She had had one miscarriage but no children. Although not relevant in this case, it is known that syphilis may result from sexual abuse of elderly patients.²

A course of tetracycline (the patient was allergic to penicillin) resulted in resolution of the pain and ulceration over four months. There was no Herxheimer reaction.

Discussion

This patient, with peripheral vascular disease evident on arteriography, had skin ulcers typical of a severely ischaemic leg, which were in fact probably gummatous lesions. Only a minority of patients with untreated syphilis develop late sequelae, about 15% having gummatous lesions with skin and bone among the possible sites.³ The tibia is the bone most commonly affected.⁴

Syphilitic osteomyelitis starts in the metaphysis, and the earliest radiological change is a periostitis.⁵ The periosteal reaction causes a build up of new bone on the anterior border of the tibia, resulting in a sabre tibia appearance. As the disease progresses to the cortex and medulla lytic areas of bone destruction develop. There is a variable degree of new bone formation, which results in dense areas of

sclerosing osteitis. The degree of sclerosis may reflect relative ischaemia due to syphilitic arteritis.⁵ Clinically, local pain and variable swelling are seen.⁶ The osteomyelitis may penetrate to the skin and produce a punched out ulcer with bone in the base, but the lesion may be superficial or even heal up and may be easily confused with venous ulcers.⁷

This case emphasises the importance of making a precise diagnosis in all cases of intractable leg ulceration before embarking on surgical or prolonged medical treatment for the ulcer.

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Third World Issues

A primary health care project in the Amazonian jungle of northern Peru

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During the past eight years the Aguaruna and Huambisa Council, a jungle Indian group, has developed a programme providing primary health care to 35 000 inhabitants of 22 000 sq km of upland rain forest, an area the size of Wales. The Aguaruna and Huambisa people inhabit an isolated region of northern Peru, most living on the banks of the Marañon, Chiriaco, Cenepa, Nieva, and Santiago rivers. Their zone is defined to the north by a disputed border with Ecuador and to the south, east, and west by mountain ranges.

For centuries these groups were famous for feuding and intertribal headhunting raids, though they were prepared to unite temporarily to repel a common enemy. Their reputation for fighting and their geographical isolation ensured that they were relatively undisturbed until the 1950s, when various missionary groups pioneered incursions into the area. Over the past 30 years their lifestyle has changed dramatically. Previously, isolated family groups lived deep in the jungle. Xenophobia and a shifting complex of alliances and feuds compounded an isolation that protected their environment; ensured adequate jungle for hunting, food gathering, and "slash and burn" agriculture; and inhibited the spread of

infectious diseases.¹ During the 1950s and '60s, largely under the influence of missionaries, the tribes were settled together along the river banks around bilingual schools,² and this new way of life gave rise to several health problems. Contaminated water and lack of sanitation led to an incidence of intestinal parasites of almost 100%.³ Infectious diseases, particularly the common cold, whooping cough, and measles, caused deadly epidemics, and the denser population exhausted farming land and depleted game stocks.

In the early 1970s a Spanish development group pioneered a health programme, which was developed by the Aguaruna and Huambisa Council after it was formed in the mid-1970s. Each of the 92 communities affiliated to the council elects a delegate to attend biannual council meetings, at which programmes of economic development, education, mechanical services, legal aid, and health are planned. The council's most advanced programme is undoubtedly its health programme. Based around community health promoters, who now total 98 men and women, a network has been built up that serves each river and the entire zone.

Health promoters

Communities elect their promoters and agree to build a health post from natural materials, to start a communal fund for medicines, and to help the promoters maintain their home and prepare fresh jungle clearings for their staple crops. In turn, promoters agree to attend patients daily in the health post from 8 am until 12 noon and to be available for emergency cases at all times. This daily curative work meets a considerable need, and the promoters have to be competent in it so that they command the authority

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necessary to organise preventive health measures. Promoters advise and organise villagers in communal work—for example, clearing undergrowth in the village centre to discourage snakes, building pit latrines, protecting fresh water springs, and digging drainage ditches to create dry paths. They also give talks on topics including hygiene and transmission of diseases, care of the newborn, and nutrition.

Communities vary in size, but the average number of people served by a promoter is 380. Each household consists of a man and up to three wives.

Villagers travelling on river.

The men fish, hunt, and clear jungle to create fresh land for their wives to grow staple crops of cassava and plantain. Money is needed only for clothes, shotgun cartridges, medicines, and education (although state education is free, students receiving secondary education usually have to live away from home and therefore require the equivalent of about £100 each year for lodgings and food). Cash is earned by small scale cultivation of cocoa or coffee, panning for gold, or working for an oil company or the army.

TRADITIONAL MEDICINE, WITCHCRAFT, OR STRONG DRUGS?

Aguarunas have a complex set of theories, magical, traditional, and "modern," about the aetiology of diseases and treatment. A rich local tradition of using medicinal plants exists, with remedies for most ills as well as contraceptives and vegetable tonics for women after childbirth. Some of this is common knowledge, but family elders keep a body of knowledge secret, possibly because people believe that the remedies' power will be lost if the secret is shared. The promoters are encouraged to use their knowledge of traditional medicines when appropriate; such treatment is usually cheaper and potentially less harmful than modern medicines.

"Brujeria" is a complex system of witchcraft, an integral part of everyday

life in which everyone believes profoundly. Briefly, illness is caused by magic "darts" shot into the victim's body by a "brujo" (pronounced bru-ho). The resulting illness, which can take virtually any form, can be cured only by the intervention of a good brujo or curandero. A hallucinogenic potion, "ayahuasco," allows the curandero to see the darts and remove them by sucking from the victim's body. By entering a different plane of existence the curandero is able to name the brujo responsible for the illness. This can have fatal results for the named man if the patient dies, as the victim's family may exact revenge. The belief in brujeria can give rise to potentially fatal illness, which can be cured only by magic and not by other forms of treatment. A preference for magic can also be dangerous when a potentially effective treatment with traditional or modern medicines is abandoned in favour of brujeria. Multiple consultations constitute a serious problem in the zone. Often the patient's family wanders from promoter to curandero to local expert in medicinal plants to another promoter, teacher, or enthusiastic amateur until the patient has received such a cocktail of drugs and plants that he succumbs more from the treatment than the disease.

As elsewhere in the Third World, promoters are under enormous pressure to accede to demands for injections for every complaint. In keeping with recommendations of the World Health Organisation we encourage the promoters to prescribe from a list of about 30 remedies, emphasising, for example, that oral rehydration therapy should be used for acute diarrhoea and single, "safe" antibiotics, such as penicillin or ampicillin, for infections of the lower respiratory tract. Unfortunately, this kind of simple, effective treatment is often disregarded by patients, who can buy, for example, "stronger" fixed ratio broad spectrum antibiotics and antibiotic-steroid combinations that drug companies are not able to market in the developed world. These products expose the patients to unnecessary risks and are available only because of the drug companies' exploitation of lax governmental controls in the Third World. The promotion and sale of these products thus contributes greatly to the difficulty of the promoter's job: How do you persuade parents to use a sugar and salt drink when their neighbours all say that tetracycline-prednisolone injections are the best treatment for diarrhoea?

MOTHER AND CHILD HEALTH

By 1983 only two women promoter's had been elected, so a special women's training course was organised and 20 women were elected and trained. Difficulties arose because these women were in their mid-teens; some lacked the necessary confidence and maturity to cope with their work and talk before community meetings, and others stopped work when they married. By 1985, however, 16 were still working, and a special four week retraining course was held to build on their two years' experience and to gather their ideas for the future of the mother and health programme.

Their suggestions included training more women health promoters, electing their own women supervisors, funding and running the mother and child health programme themselves, and providing clean drinking water for the communities. They thought that many communities wanted a female promoter because women are reluctant to consult a man and because the problems the communities face traditionally affect women: problems of nutrition, agriculture, education, and child care. Interestingly, female promoters found that they were increasingly asked to attend deliveries, although the Aguaruna have no tradition of community birth attendants, this role usually being taken by an older member of the mother's close family.

The female promoters presented these ideas to the health committee and had them approved. They then presented them to the general assembly of the Aguaruna and Huambisa Council, which women do not usually attend; their proposals were approved with loud applause.

This year 20 more women are to be trained, with preference given to older women with children. A female supervisor has been elected, who plans to visit the existing promoters and also communities requesting female promoters, to explain their role. These measures should not only improve the health of women and children but increase women's confidence and influence.

RIVER SUPERVISORS AND HEALTH CENTRES

Five supervisors have now been elected and try to support the promoters by making regular visits by boat, although fierce sun, torrential rain, treacherous sand banks, and rapids can make travelling uncomfortable and their arrival unpredictable. Supervisors inspect community health posts, paths, latrines, and springs; advise on problem patients; and complete a report for the director. They then convene a village assembly to discuss problems related to health and thrash out disputes between promoters and the community.

A health centre has been established on each river as a referral point for difficult patients. Staffed by an experienced health promoter and an Indian laboratory technician, it accommodates occasional inpatients; a paraffin refrigerator for storing vaccines and snakebite serum; and equipment for analysing stools for parasites and amoebas, urine for infection, blood for anaemia and malaria, and sputum for bacterial infection and tuberculosis.

The director

The director, who has responsibility for managing the health programme, is elected by, and accountable to, the health committee. He organises the four day biannual meetings of the health committee, attended by all 98 workers. His other duties include preparing requests for funds and writing reports for funding agencies; securing medical supplies, petrol for the supervisors' boats, and paraffin for the refrigerators; paying the promoters a small stipend (which partially compensates them for the lack of time to pursue money making activities); and collating their monthly report sheets of patients seen, grouped according to age, sex, and simple diagnostic category (table).

Relative prevalence of diagnoses (expressed as proportion of all diagnoses) made by health promoters. (Analysis based on 7190 diagnoses made by 25 promoters in 1984)

Diagnosis	Prevalence (%)	Diagnosis	Prevalence (%)
Gastrointestinal disease	40	Anaemia	6.3
Parasites	14.7	Arthritis	4.6
Simple diarrhoea	15.7	Trauma	1.9
Amoebiasis and dysentery	9.6	Obstetrics/gynaecology	2.9
Respiratory disease	23	Skin disease	5.5
Upper respiratory tract	17.0	Notifiable disease*	4.6
Lower respiratory tract	6.0	Others	11.2

*Includes endemic diseases such as malaria (exclusively vivax malaria), leishmaniasis (mucocutaneous), hepatitis, tuberculosis, polio, gonorrhoea, and epidemics of measles, whooping cough, yellow fever, and rabies (for which the vector is the vampire bat).

The director coordinates emergency vaccination campaigns in the event of outbreaks of rabies or yellow fever and routine vaccination of children against whooping cough, tetanus, diphtheria, polio, measles, and tuberculosis. The programme has organised vaccination campaigns for several years, but, in 1985, for the first time, the Ministry of Health sent five vaccinators into the zone. By organising the campaign and providing transport, staff, cold chain, and local knowledge the council clearly showed that it is the only organisation in the zone with the infrastructure for public health campaigns of this sort.

Finally, the director is responsible for liaising with the Ministry of Health at local, regional, and national levels and is constantly trying to increase its cooperation with the health programme, which at present is minimal.

Medical advisers

Since 1978 the Catholic Institute for International Relations (a member of the British Volunteer Programme, which sends volunteers to parts of Latin America, Africa, and the Middle East) has provided doctors as advisers to the council's health programme. These advisers considered from the first that locally trained and supervised health workers would be more effective than doctors in treating most diseases and in organising preventive health measures; they have therefore concentrated on teaching and advising, so that now they spend little time in "hands on" medicine, generally doing it with a health worker as a teaching exercise. As well as supervising training and refresher courses for health workers the medical advisers sometimes join supervision trips and help the director in his relations with foreign funding agencies and the Peruvian Ministry of Health. They are also a source of information, advice, and help with difficult patients for the health promoters, and a source of advice on problems with vaccination campaigns and distribution of drugs for the health committee.

HEALTH COURSES

All the health promoters undergo a three month basic training course and then, each year, a two week refresher course. The refresher courses provide an opportunity for the promoters to meet and discuss local problems and to study common diseases and any local outbreaks of, for example, tropical

ulcer, yellow fever, or rabies. They also include practical sessions on examining patients, injection techniques, health talks, building pit latrines, and so on. A team of Aguaruna health teachers are being trained; they already teach classes in each refresher course, and there are plans to increase their contribution until retraining is exclusively in the local language.

The programme has five laboratory technicians and two dental technicians, who were trained by the University of Cayetano Heredia in Lima. Recently the Ministry of Health also held refresher courses for some promoters in the hospitals of small towns two to four days' travel from the jungle, which provided promoters with wider clinical experience.

The future

The laboratory technicians' work is to be coordinated and upgraded with help from a recently appointed volunteer laboratory technician. A programme to protect water supplies and provide clean drinking water, using simple technology, is planned. The withdrawal of foreign advisers depends on the promise of reliable long term support from the Peruvian medical system, and, although recent courses given by the ministry are a promising sign, there is as yet no evidence of willingness to provide financial support, or indeed for the doctors officially responsible for the area to visit the zone for even a few days.

This programme shows again the validity of the village health worker concept. Peruvian jungle Indians, most of whom have only primary education and many of whom have never been outside the jungle, are proving equal to the task of organising and providing primary health care for their communities.

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A 17 year old girl whose mother died in her 30s from breast cancer wishes to use hormonal contraception. Her mother took a combined oral contraceptive pill before the onset of the breast carcinoma. The girl has no other relative or absolute contraindications to using oral contraceptives. Is giving the progestogen only pill in preference to the combined oral contraceptive pill reasonable?

Firstly, it must be explained to this young woman that she is at risk of breast cancer whatever contraceptive she uses as a result of her family history (first degree relative). The possibility that exposure to the combined pill before the age of 25, or before a first full term pregnancy, might increase the risk, remains unproved¹; indeed, absence of any risk was suggested by the largest study to date.² Pending more data, however, most authorities would consider that the combined pill was relatively contraindicated in a woman with this family history. There are no data whatever about the progestogen only pill, and this includes no evidence that it would not actually be worse than the combined pill in this respect. It also interacts in a variable and most unpredictable way with the woman's menstrual cycle.³ If it were judged that the risks of unplanned pregnancy and of alternative methods justified use of a hormonal method I would personally choose a combined pill in preference to the progestogen only pill after full counselling, selecting a formulation giving the lowest dose of both the oestrogen and progestogen that the woman's uterus will permit—that is, just above her threshold for breakthrough bleeding.—J GUILLEBAUD, senior lecturer in gynaecology, London.

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