Current Practice

Management of Patients Recently Arrived from the Tropics

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Persons consulting their doctor shortly after their arrival in the United Kingdom from a warm climate may be conveniently divided into three groups: (1) those normally of long domicile in Britain but who have been abroad for a short visit lasting perhaps a few weeks—such persons are commonly those who have been away on holiday or to visit relatives or in the course of their business; (2) persons whose home is in the United Kingdom but who work abroad and return at the end of tours of duty—such persons may be engaged in missionary work, be representatives of British firms or the British Government, or be in the service of foreign governments or some voluntary organization; and (3) persons entering the United Kingdom for the first time as immigrants or visitors, or who have previously lived in Britain but who have been home to their country of origin—such return visits to the tropics are common occurrences and may last months or years.

Though there are complaints common to all three groups it is convenient to consider them separately.

Short-term Visits Overseas

Undoubtedly the commonest complaint made by patients after a short stay overseas is diarrhoea, and it seems that a high proportion of persons making such visits suffer from some change in bowel habit, and many people accept this as part of the visit. Some may be troubled throughout the whole of their stay and, rather surprisingly, may not be incapacitated or have to alter their plans or shorten their visit. Such "travellers' diarrhoea" is variously attributed to "change in food," "change in water," or "change in bowel flora," but it is not at all clear what does happen. Even when facilities for investigation are available, and this is not the rule, and during the acute attack, pathogens are isolated from only a small proportion of such diarrhoeic stools. On the patients' return to this country the diarrhoea, whether previously intermittent or continuous, often improves or does not recur, but in some it continues, and this calls for investigation. By this time, though there are still some patients in whom no cause can be found, in most the cause is elucidated.

The history may or may not be helpful; other members of the party or fellow travellers may have been similarly afflicted, and a common time of onset might suggest a salmonella infection. It should be remembered that salmonellae may be present in the stools without producing symptoms but also that diarrhoea apparently due to such an organism may persist for many weeks; this last situation is perhaps one not generally appreciated.

Giardia lamblia

Giardia lamblia infections are common in warm climates and a frequent cause of diarrhoea which persists after return

to this country; the diarrhoea may be intermittent in nature and the infection may disappear spontaneously, especially if circumstances are such that reinfection is unlikely. Diarrhoea due to this parasite may be troublesome and be associated with malaise and some weight loss; occasionally there is steatorrhoea. Clearly the diagnosis depends on the recognition of the parasite on microscopical examination of the stools.

Entamoeba histolytica

This parasite more commonly produces an asymptomatic than a symptomatic infection, and when producing symptoms at all diarrhoea is much more common than dysentery—at any rate, in the sort of patient under consideration here. Diarrhoea may not appear for some time (even years) after return to this country and may be confined to a single attack. Frank or severe dysentery is unusual in this sort of patient, but liver abscess does occur, so that it is important to establish the diagnosis and institute appropriate treatment. Diagnosis again depends on the recognition of the parasite in the stools which must be differentiated from the harmless *Entamoeba coli*.

Shigella Infection

No doubt in some patients experiencing diarrhoea while on a visit overseas a shigella may be the cause. The bowel upset is usually short-lived and rarely persists for more than two weeks or so; in addition, the convalescent carrier state is short, so that a negative stool culture does not exclude a shigella organism as the cause of the recent diarrhoea. *Shigella flexneri* is the species responsible for most cases of bacillary dysentery in the tropics.

Tropical Sprue

There are no rules regarding the period of stay in an endemic area before tropical sprue manifests itself, and symptoms may present themselves some time after return to this country; there are, however, strict rules regarding the place visited. Though sprue occurs in the Caribbean, it is persons visiting India and the Far East who will be most often affected; I have seen a patient who spent only two weeks in India before the onset of diarrhoea found to be due to malabsorption. The character of the stools and times of bowel actions may suggest the diagnosis; on the other hand, the patient may present with watery diarrhoea, in the first instance not at all suggestive of sprue. Return to a temperate climate is often followed by some amelioration of symptoms. The diagnosis depends on the demonstration of malabsorption and can really be conveniently made only in hospital.

There remain a few patients in whom no cause can be found for their symptoms; fortunately, spontaneous remission is the rule. All patients presenting with diarrhoea after a short visit to a warm climate must have their stools examined

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microscopically and bacteriologically; many otherwise excellent laboratories, however, are inexperienced in the microscopical examination of stools for parasites, an examination which is facilitated by some concentration technique such as the formol-ether method. It is suggested, if the patient's symptoms persist and if laboratory investigations are negative, that he be referred to one of the hospitals specializing in tropical disorders or that permission be sought for a stool specimen to be examined there.

Pyrexia

Pyrexia is a much less common complaint of short-term visitors overseas than is diarrhoea but may appear after their return to this country. Such persons are, of course, subject to those causes of pyrexia affecting persons who have not left the country, and the fact that they have recently visited a warm climate does not mean that the usual investigations should be omitted; certain additional ones should, however, be carried out. In the absence of abnormal physical signs a patient presenting with pyrexia but not seriously ill is customarily treated symptomatically and observed. If the high temperature persists some investigations are carried out by the patient's own doctor or by the hospital to which the patient may have been referred; the total and perhaps differential white count is requested, the urine is examined for protein and microscopically and is cultured, and a radiograph of the chest is obtained. If pyrexia persists abnormal physical signs may or may not appear and further investigations are instituted; the blood may be cultured and agglutination reactions requested. This all takes time, but in the person who has not recently been overseas and in whom no obvious treatable condition is present this is a justifiable procedure.

If, however, the patient has recently returned from overseas, particularly from a malarious area and especially from one where *Plasmodium falciparum* is the predominant parasite, then this delay may be important. I recently saw a patient who developed cerebral malaria and died deeply jaundiced and in renal failure 10 days after the onset of pyrexia; the rise in temperature occurred a few days after returning to this country following a visit to West Africa of a few weeks' duration. Though he had taken an antimalarial agent while in West Africa, it is probable that it was intermittent; the importance of continuing such suppressive measures for perhaps a month after return to this country has been stressed by others.^{1 2}

It is therefore important that the *early* investigation of a febrile patient who has recently returned from overseas should include a blood film for malaria parasites—preferably a thick film and a thin smear, such as is prepared routinely in haematological investigations; it is important that these be examined by someone experienced in the work, and error may be reduced by specifically stating “recently returned from—, ? malaria” on the request form. Again such films are best examined at the tropical diseases hospitals where such material is routinely handled, and a telephone call followed by the slides by post is often a wise precaution. In those recently returned from overseas blood culture for enteric organisms might be instituted earlier than in persons who have not left the country; typhoid fever is more common in warm climates than in the United Kingdom, and probably at least half of the diagnoses made in this country are in persons entering from overseas for one reason or another. Perhaps contrary to popular belief blood, stool, and urine cultures increase the likelihood of isolating the organism, regardless of how long the patient has been ill; it should also be remembered that many persons eventually found to have enteric fever are not severely ill when first seen.

Though dengue is prevalent in parts of the tropics, its occurrence in persons recently returned from such areas

seems not to be common; it may be, however, that in persons suffering an influenza-like illness a diagnosis of influenza is made and that the added features of glandular enlargement and measly rash are mild and pass unnoticed. The diagnosis is difficult to prove, but though the illness may be an extremely uncomfortable one, especially on account of the limb pains, which may be very severe, recovery is the rule.

Infectious hepatitis is very common in tropical countries, and in a patient recently returned from an overseas visit pyrexia may herald such an attack; the management differs in no way from that arising in this country. Though uncommon, amoebic liver abscess, trypanosomiasis, and toxoplasmosis are causes of pyrexia in persons who have made only a short visit to parts of the tropics; expert advice is required in both diagnosis and management.

Rash

Prickly heat, which may greatly trouble some persons who visit especially the humid tropics, tends to improve rapidly on return to a temperate climate. Insect bites, apart from the specific lesions, may be followed by an allergic-like rash, and secondary infection may result after scratching; again such lesions tend to improve with time after return to this country. Fungus infections, especially of the feet and crutch, are also common in persons visiting the humid and warm parts of the world; these too improve in the cooler climate and their management does not differ from such infections in persons who have not left the country. Clearly any vesicular eruption in a person recently returned from overseas should be viewed with the greatest suspicion, and it must be remembered that previous vaccination may modify the rash of smallpox; expert opinion should be sought without delay.

Long-term Visits Overseas

Persons whose home is in this country but who work in the tropics and who present after their return constitute a different group from those making a short visit only. Because of the duration of their stay and the fact that they may have spent long periods in rural areas of the tropics, the possibilities are greater. Again, it must not be forgotten that such persons may be suffering from some cosmopolitan disorder; in addition, conditions common to many tropical areas and those specific to the particular region where the patient worked must be considered. This, of course, embraces the whole of tropical medicine and cannot be dealt with here. The remarks made concerning the management of the short-term visitors apply equally to those who have resided longer in the tropics. Many of those regularly working in warm climates make routine visits to one of the specialized hospitals on their return to this country. They may have no complaints or they may have vague symptoms such as weight loss, anorexia, lack of energy, or some looseness of the bowels. It is surprising how often some abnormality is detected at such routine visits, which are to be encouraged. A practitioner seeing such a person in whom, perhaps, the cause for the symptoms is not immediately apparent is recommended, therefore, to seek advice from one of the tropical diseases hospitals.

Immigrants from Tropical Areas

This group includes persons entering the country for the first time and those who have been home on a visit to their country of origin; long visits of this kind are common, especially in those originating in India and Pakistan.

What has been said regarding persons working overseas but whose long-standing home is the United Kingdom applies to this third group of patients. Rapid air travel enables such persons to reach this country during the incubation period of some serious infective disorders of which typhoid fever, smallpox, and malaria are the most common, and many of the patients seen suffering from these disorders have recently left their country of origin.

Acute illness should be managed as for group 1 patients; in those suffering less acute illness it is probably advisable to obtain further opinion either from a general hospital or from one specializing in tropical disorders. It is understandable that general hospitals should like to keep an "interesting patient," though this is not always in the best interest of the individual; they too might do better by obtaining expert opinion and by obtaining it early rather than as a last resort when all other investigations have proved negative. As there are good and bad ways of handling an acute abdomen, a spontaneous pneumothorax, and a placenta praevia so there are good and bad ways of handling an amoebic liver abscess or an infection with *P. falciparum*.

Conclusions

Clearly the greatest hurdle to overcome is to discover that the patient has been overseas, information which is not always volunteered. Acute illness should be managed as outlined in this article and failure to make a diagnosis calls for early assistance from one of the specialized hospitals. Less acute illness should be investigated as for permanent residents of this country, but failure to make a satisfactory diagnosis should suggest an expert opinion, again early rather than late; this might be sought more often by general hospitals as well as by general practitioners.

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TODAY'S DRUGS

With the help of expert contributors we print in this section notes on drugs in common use.

Non-steroid Anti-inflammatory Agents

In the 1920s and even later it was fashionable to treat fevers with analgesic-antipyretic substances. As there were then no effective bactericidal or bacteriostatic agents all one could do was to attempt to reduce pain, fever, and other unpleasant symptoms. Today, in spite of a vast selection of antibiotics, many inflammatory diseases cannot be rapidly cured but can be symptomatically relieved; examples are virus pneumonias, connective tissue disorders such as rheumatoid arthritis, rheumatic fever and systemic lupus erythematosus, glandular fever, sarcoidosis, and gout. Patients with such disorders are often glad of symptomatic relief. Since the anti-inflammatory agents have also analgesic and antipyretic properties they are extremely useful in this widely scattered group of inflammatory disorders.

Anti-inflammatory agents available are: the *salicylates*—particularly aspirin in all its different forms; the *pyrazolones*—phenylbutazone and oxyphenbutazone; indomethacin; the *anthranilates*—mefenamic and flufenamic acids; and ibuprofen.

Though gold salts, chloroquine, and immunosuppressive agents can be legitimately considered to be anti-inflammatory long-term agents, they are not discussed here.

Salicylates

Aspirin in its various forms is usually first choice in the treatment of any inflammatory disorder, whether it be a common cold, rheumatoid arthritis, or glandular fever. Sodium salicylate has been largely given up in favour of aspirin as the latter drug relieves symptoms more effectively. Aspirin is rapidly absorbed from stomach and small intestine and begins to ease pain within 15 minutes of ingestion. Used in low dosage it is essentially an analgesic agent only; in larger dosage, such as 5 g. or more daily, it has a measurable anti-inflammatory effect also, as has been shown in patients with rheumatoid arthritis.¹ Similarly, it has different effects at different

dose levels in gout, small doses (1-2 g. daily) lessening uric acid output and causing elevation of serum uric acid levels, larger dosage (5-6 g.) having the opposite effect. It should be said in passing that aspirin has little part to play in the treatment of acute gout.

In larger dosage aspirin has a definite anti-inflammatory effect, and for this reason it is usually the first choice in the treatment of rheumatoid arthritis. Soluble aspirin is generally the most popular, but all preparations may cause gastrointestinal complications and bleeding. Popular proprietary preparations are Paynocil (glycinated aspirin), each tablet containing 0.6 g. which dissolves on the tongue, Palaprin forte (aloxiprin) each tablet containing 0.6 g. which may be chewed, sucked, swallowed, or dispersed in water, Bufferin (aspirin buffered with magnesium carbonate and aluminium glycinates), enteric coated preparations, and several others. This anti-inflammatory analgesic action has been shown by Lim² to be at least in part peripheral. Unfortunately, the high dosage necessary to achieve the effect is often poorly tolerated, and dosage has to be reduced or the drug changed to something better tolerated. At high dose levels compound preparations containing phenacetin, caffeine, or codeine are never used.

Pyrazolones

Phenylbutazone and its metabolite oxyphenbutazone are effective long-acting, slowly metabolized, anti-inflammatory, antipyretic, analgesic agents. They are only slowly broken down and are excreted in the urine largely as a number of water-soluble metabolites. They are firmly bound to plasma protein, largely to albumin and alpha globulin, and for this reason they exert an even, prolonged action, which is particularly effective in the chronic arthropathies and in acute gout (total daily dosage being 200-400 mg. in the former and 600 mg. in the latter condition). When treating acute gout the dosage should be gradually reduced by 100 mg. daily as the attack comes under control. Though oedema, rashes, and gastrointestinal complications are known to occur, the much rarer, though more dangerous, toxic effects are haematological—neutropenia, thrombocytopenia, or aplastic