

three to four litres of fluid daily is often recommended.

Inhalations of water vapour are very effective in liquefying sputum—they may be medicated with menthol, eucalyptus, compound benzoin tinct., etc. Water can also be supplied by the use of nebulizers. Wetting agents (Alevaire) are often considered helpful, although their place in therapy has yet to be defined. Acetylcysteine (Mucomyst) will possibly prove of value in the treatment of patients with severe lung disease and grossly tenacious sputum; 2 ml. of 20% solution of acetylcysteine is given in the aerosol spray four times a day.

Bronchodilators and Decongestants

Bronchodilators, such as ephedrine orally and isoproterenol (Isuprel) by inhalation, are indicated when there is evidence of bronchospasm. Anti-

histaminics and "decongestants" are unlikely to be of great use.

SUMMARY

Codeine and dihydrocodeinone are of appreciable value in the treatment of dry, useless cough, and in combating paroxysms of severe spasmodic productive cough. Provision of water by adequate hydration, water vapour inhalation or nebulization is essential to decrease the viscosity of sputum. The era of polypharmacy in treatment of cough appears to be coming to an end. The search for better antitussive agents will continue, and undoubtedly in the future a wider choice of effective drugs will be available. At present, of the many new compounds introduced with all the enthusiasm of modern advertising, few appear to withstand the test of time and thorough clinical appraisal; on the other hand, many traditional drugs have been shown to have a limited value when studied with modern techniques.

INTERNATIONAL MEDICINE

A Medical Holiday in Nigeria

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IN VIEW of the considerable interest^{1-3, 7} being shown in medical practice and medical problems in the developing countries of Africa and Asia, the following account is presented of impressions and experiences gained during a brief working holiday of three weeks spent in the Wesley Guild Mission Hospital in Ilesha, Nigeria, in April 1964.

The trip was self-sponsored and my assistant took care of my medical practice during my absence of approximately one month.

NIGERIA

Nigeria has the largest population of any nation in Africa; 50 million people live in an area about the size of British Columbia. This vast population is served by about 1200 doctors of whom one-third are located in Ibadan, the largest native city in Africa, with a population of one million, and in Lagos, the Federal Capital, a city of some 600,000 people. There is roughly one doctor to every 40,000 people, and in Northern Nigeria one doctor to every 120,000 people. The country is divided administratively into Northern, Eastern and Western and Mid-Western districts, each with its own premier and government; over all is the Federal Government with its seat in Lagos.

NIGERIA'S MEDICAL SCHOOLS AND HOSPITALS

The University Teaching Hospital at Ibadan was built in 1957 and graduates about 45 doctors a year. The present head of the Department of Surgery is Professor Ralph C. Richards of Salt Lake City, Utah. In the outpatient department of this institution, 2000 outpatients are treated each day, the majority of whom are children. It has an emergency ward for the resuscitation of very sick children but the tragedy is that, at the end of each day, only a few can be admitted as in-patients and the remainder are sent home, probably to die. Certainly this procedure involves a series of heartbreaking decisions which have to be made every day by some unfortunate medical officer.

The University Teaching Hospital in Lagos was opened in 1960 and began the training of clinical students last year. I was pleased to see that the Anesthetic Department is almost completely staffed by Canadians, headed by Dr. Shirley Fleming of Toronto.

The university teaching hospitals are each of about a 400-bed capacity. These hospitals have the main specialties but lack many subspecialty departments; for example, there is no radiotherapy unit at all in Nigeria. The only ear, nose and throat and ophthalmology departments are located in the

General Hospital in Lagos, and orthopedic work is centred in an exclusively orthopedic hospital in Lagos.

The medical staffs of the teaching units at Ibadan are mainly made up of doctors from outside the country, and to a lesser extent in Lagos, where the surgical department is wholly manned by Nigerian doctors.

For their medical degrees, the Nigerian students write examinations administered by the University of London, and are examined by their own teachers and by a board of examiners flown out from England. Undergraduate students also take some of their clinical training at selected non-teaching hospitals; the Wesley Guild Hospital is one of the hospitals recognized for certain portions of this training.

THE WESLEY GUILD HOSPITAL

The city of Ilesha, which is situated in Western Nigeria and has a population of 100,000 together with a surrounding rural population of an additional 100,000, is served by one general hospital, the Wesley Guild Hospital. This ably run Methodist hospital of some 126 beds has been serving the Nigerian people for the past 50 years. Normally, it is staffed by four expatriate doctors (that is, doctors serving overseas away from their native land), one Nigerian pediatric intern, three expatriate nursing sisters, and some 30 Nigerian nurses. The institution also has a nurses' training school with a student body of 60 nurses, made up of 20 entrants each year for three years. Because the hospital had only three expatriate doctors (a physician, an obstetrician and a pediatrician) but no surgeon, I volunteered my services for a short period. The previous surgeon had been there for six years and had left two months before my arrival.

The hospital's outpatient department, which serves some 1000 people each day, is made up of (1) a pediatric unit which is subdivided into (a) an "under 5" group, (b) a 5 to 14 group; (2) an antenatal unit; and (3) an adult medical and surgical unit with a separate, weekly tuberculosis clinic. Of the 1000 patients seen each day, some 500 are children. All patients are first seen by nurses, who refer those who require the attention of a doctor. There is a separate casualty (emergency) department.

The obstetric service has about 1200 deliveries per year. The normal deliveries are commonly done by midwives in training. Cannon and Hartfield¹ have analysed the deliveries in this hospital over the past six years and found that there is a high incidence of twinning, and weight gains in pregnancy average 11 lb., roughly half the North American average. Anemia in pregnancy is hemolytic in type and largely due to malaria. This anemia is overcome to a large extent by administer-

ing pyrimethamine (Daraprim) to the mothers in a dose of 25 mg. every two weeks; incidentally, babies born of mothers taking the drug are roughly 8 oz. heavier at birth. The neonatal death rate is about 33 per 1000 live births. Complications are mainly due to pelvic disproportion and placenta previa. Forceps delivery is 2.7% of births compared to a United Kingdom rate of 12.7%. Cesarean sections are not undertaken lightly if vaginal delivery can be accomplished by trial labour and forceps, because one cannot be sure that the patient may not rupture her uterus in subsequent labour undertaken in her own home. In some centres symphysiotomy is preferred to Cesarean section in case of disproportion. The mortality of booked (i.e. those patients who attended the hospital antenatal clinic) cases is 4.6 per thousand and 25 per thousand for emergencies, compared with the United Kingdom (England, Scotland and Wales) rate of 0.4%.

The pediatrics department is undoubtedly the busiest in the hospital. Much useful research work has been done here by Dr. David Morley,³ who organized the "under 5" clinic which is concerned with the prevention of malaria, measles, whooping cough, smallpox and tuberculosis, and with the provision of early treatment for respiratory, intestinal and skin lesions. Measles, a condition which we tend to regard rather lightly in Canada, is a virulent disease in Nigeria with a general mortality of 4% or 5%, which reaches 20% among those admitted to hospital with complications of the disease.⁴ Gastroenteritis is also very common and carries a high mortality.

DISCUSSION

With respect to the surgical conditions encountered in Nigeria, Richards⁵ noted that duodenal ulcer is very common and usually presents as a duodenal stenosis which is particularly sclerotic. This lesion is best treated by vagotomy and gastroenterostomy rather than pyloroplasty or partial gastrectomy, because the sclerotic duodenum is not suitable for pyloroplasty. The unsuitability of the duodenum is due to the considerable periduodenal adhesions and the fibrotic nature of the disease in the duodenal wall. Also the Nigerian needs a stomach of large capacity to hold the banquet-sized meals of yams, cassava and so on usually consumed. Thyroid disease in the form of nodular goitre is very common, and histological studies of such lesions reveal a high proportion of malignant lesions.

Burkitt's tumour (lymphoma of the cervicofacial region), endemic in Uganda, also occurs widely in Nigeria, which lies in the equatorial belt across Africa where this condition is so prevalent.⁶ In Nigeria radiotherapy is not available and malignant disease is treated surgically if operable, or by chemotherapy.

Other common surgical conditions which I encountered during my stay included fractures of the femur sustained in falls from palm trees, and hernias of all types; with respect to the latter, the very common umbilical variety is rarely operated upon because it seldom gives trouble. An unusual entity, the etiology of which is unknown, is multiple deep-seated abscesses (pyomyositis); this is perhaps the most common surgical condition in this part of Nigeria. Cultures of these abscesses revealed no growth in the cases which I treated. The common sites so affected are the deltoid, gluteal, anterior and posterior muscles of thigh, and calf muscles. There is no break in the overlying skin and no definite history of trauma.

Osteomyelitis and rickets were also frequently seen. Osteomyelitis was treated for the most part by closed intracavity irrigation. Drill holes were made either at site of sinuses or at either end of the disease process, and inflow and outflow polyethylene catheters were inserted and the overlying skin was closed. Through these catheters the bone was perfused with a weak solution of detergent containing an antibiotic—about two litres of fluid was used in 24 hours. This was continued until one obtained four consecutive sterile cultures. The general and local disease in osteomyelitis appears to improve very considerably, but naturally from three weeks of observation one cannot be dogmatic about the results. This very useful method, closed intracavity irrigation, was first brought to my attention by Dr. E. Compere of Chicago, who found it ex-

tremely effective in the treatment of chronic osteomyelitis with sinus formation.

SUMMARY AND CONCLUSION

This paper briefly surveys the experiences of a Canadian doctor on a short working holiday in Nigeria, spent in a general hospital run by the Methodist missionaries. During my stay it was my privilege to attend the annual meeting of the Nigerian Medical Association, and I have been asked to convey the best wishes of Nigerian physicians to their Canadian colleagues.

More Canadian doctors may find it possible to spend holidays in the developing nations of the world where much can be seen and learnt; and much useful work can be accomplished in the relief of suffering, and in cementing the bonds of friendship between the peoples of the world.

Those who cannot help directly can assist their confrères in these countries by donations of funds and equipment.

I wish to express my sincere thanks to Drs. Andrew Pearson, A. Cox and W. Clapp and the staff of the Wesley Guild Hospital for the privilege of working with them and for the kindness and hospitality shown to me.

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PAGES OUT OF THE PAST: FROM THE JOURNAL OF FIFTY YEARS AGO

WAR NOTES II: A MEDICAL U.N.

Considering all the difficulties, the hospital is in admirable running order, though occasional friction is inevitable. Two surgeons do the work on each floor. There are six Belgian surgeons holding commissions in the Belgian Army and three British. Of the latter, one is an Australian woman, who had a hospital in the Casino at Ostend of about two hundred beds. She remained, doing perfectly splendid work, after the arrival of the Germans and was even asked by them to go down and work in their rear lines. Now she attends to the infectious cases in the villa as well as assisting with the work on the *troisième étage*. The Belgians are a very nice set of men and I am very happy to be working with Dr. Van de Velde, a young surgeon from Ghent, on the second floor. He speaks English very well indeed, so that my poor French is not needed with him. I am very glad that he can manage Flemish, for it would be impossible for me to obtain any history at all from some of the wounded. Two other Belgian doctors do the x-ray work and still another is the bacteriologist and laboratory man. The *garde* for the day acts as admitting officer, and dresses any soldiers who come from the village. Our turn comes about every tenth day and we are on duty for twenty-four hours. If any cases requiring immediate operation are admitted at night the *garde* performs it, but calls out of bed the second and third *gardes* to act as his assistants. The other night thirty wounded arrived and all the staff were at work, with four tables in use.

We have between forty and fifty nurses, most of whom

are fully qualified. The matron is a splendid manager and, though she does not speak French, it is wonderful to see how she manages the orderlies and stretcher-bearers, and makes known what she wishes done. There are four or five Danish nurses, one Russian, one Italian and one Swiss. In one ward the other day, including the patients, nine different nationalities were represented. It is interesting to learn that in Belgium the operating room nurses do not have to follow out the full course of training. Naturally the nursing must be very heavy work, but it is very well done.

I think perhaps the hardest worked individual in the hospital is the young Belgian lady who acts as house-keeper, and orders the meals for nearly two hundred and fifty people every day. Where all the good things come from we do not know, but the meals are excellent in quality and variety. The patients probably never lived so well in their lives before. Another Belgian woman, wife of one of the surgeons, acts as head of the laundry, is at work from morning to night and has no end of trouble with the "help" and the boilers. In the villa next to the laundry another Belgian woman receives all the clothes of the wounded on their arrival, sees that all are cleaned, disinfected and mended before the poor fellows are "evacuated" and sent on to Calais. One has to admire all these Belgian women, whose husbands are at the front and whose children or families are safe in England. It must be borne in mind too that probably they have never had to do a "hand's turn" before at anything of this kind. They could all so easily go over to England.—T. A. Malloch, *Canad. Med. Ass. J.*, 5: 355, 1915.