

FOREIGN CORRESPONDENCE EBOLA: THE ENGLISH CONNECTION

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Editor,

When one considers that many persons from the African continent arrive in Malta legally or otherwise, it is not inappropriate to surmise that some unfamiliar and possibly highly dangerous exotic disease, to which we are not accustomed, may some day be introduced into the island and may primarily and principally expose our medical, nursing and laboratory staff and their families to an alien infection with unpleasant and possibly fatal consequences.

The following essay illustrates such an incident and medical emergency:

"An outbreak of Haemorrhagic Fever which started in mid-September has been reported in Southern Sudan. Unofficial information has been received in Geneva suggesting an outbreak of disease with similar symptoms in Northern Zaire"

WHO Announcement 1976

Sudan, July 1976

The sudden alteration in the itinerary of the Archbishop of Canterbury on his visit to the Sudan was probably the event which made many of us here in the United Kingdom realise the seriousness of an epidemic which had erupted in Southern Sudan.

The outbreak was centred on the townships of Nzara and Maridi in Western Equatoria Province of the Southern region of the Sudan. The very first victims of this disease were employed at a cotton factory in Nzara. Later, when the viral cause of the disease was established, a high proportion of the factory employees were found to have antibodies to the new virus in their blood, thus incriminating the factory, which was heavily infested with rats and bats, as the epicentre of the epidemic.

Zaire, September 1976

The Ebola river flows westward in the northern part of Zaire (formerly the Belgian Congo) not far from the border of the Central African Republic. It was in this corner of Zaire, in the Yandongi community, zone of Bumba in the Equatoria Province, that the first patient in Zaire may have attended (28th August, 1976) the ill-fated mission hospital suffering from a hitherto unknown highly fatal haemorrhagic illness.

From the 1st September to the 24th October 1976 there were 318 recorded cases resulting in 280 deaths - a most frightening fatality rate exceeded only by that seen in Rabies.

Geneva, 1976

At the Yambuku Mission Hospital, the Belgian Catholic missionary nursing sisters succumbed to the infection in a domino effect, one after another. Their medical evacuation to Kinshasa, the capital of Zaire, and their fatal outcome there, soon made international news headlines. It is probably these latter cases, occurring in a capital city of two million people which galvanized the authorities into taking energetic steps, and specimens from patients were sent first to Belgium and then to Porton, England and CDC Atlanta USA, with the result that the following historic press announcement was released by WHO Geneva on the 16th October 1976:

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"Electron microscopic studies in specimens from the Sudan and Zaire have revealed a virus morphologically similar to Marburg but antigenetically different from strains previously identified in Africa. These findings were confirmed simultaneously by three laboratories: CDC, Atlanta, the Institute of Tropical Medicine, Belgium and MRE, Porton"

The two European laboratories and the USA laboratory working in very close collaboration had quickly established the viral origin of the new plague. The specimens referred from Zaire and the Sudan were inoculated into cell cultures (processed from continuous cell line obtained from African Green Monkey kidneys) and had produced a tell-tale degenerating effect in the infected cells. The supernatant culture fluid from these infected cells when examined by the electron microscope, revealed filamentous rod-shaped viruses 300 to 1500 nm long which were indistinguishable from the Marburg virus found in the Marburg Virus Disease epidemic which erupted in the European University town of Marburg in Germany about thirty years previously.

London, 1976

The one and only European patient diagnosed as suffering from Ebola Fever outside Africa was admitted to Coppett's Wood Isolation Hospital, London under the medical supervision of Dr. R.T.D. Emond.

On the 15th November, 1976, a Senior Scientific Officer at the Microbiological Research Establishment, Porton Down (one of the three maximum security containment laboratories investigating the new epidemic) was engaged in research work on the newly isolated Ebola virus by inoculating infective material into guinea-pigs. While handling a syringe containing material prepared from an infected guinea-pig liver, his hand wavered slightly and the syringe needle lightly touched his left thumb. As is the case in viral diseases, there was no specific drug therapy for this new disease; however, energetic efforts on a vast international scale and co-operation between the writer and experts in CDC Atlanta, Copenhagen, Helsinki, Kinshasa, Johannesburg and WHO Geneva proved fruitful in that two potentially life-saving items were procured, namely Interferon and convalescent human plasma.

The full details of the patient management have been reported by the medical and nursing staff of Coppett's Wood Isolation Hospital.

Briefly stated:

Day 0: Syringe accident in the Animal Wing, MRE Porton Down, Wilts, U.K.

Day 6: Temp. 37.4, headache, abdominal pains. Admitted to Coppett's Wood Isolation Hospital. Nursed in Trexler Patient Plastic Isolator. Administration of Interferon (a non-specific anti-viral substance) three million units twice a day for fourteen days.

Day 8: Temp. 39.0 Skin rash, sore throat, anorexia, nausea, abdominal pain. Administration of 450 mls convalescent plasma flown in from Zaire.

Day 10-12: Temp. 39.0 Severe malaise, extreme weakness, watery diarrhoea, persistent vomiting, mental disturbance. Administration of 380 mls convalescent plasma from the Sudan.

Day 13: Starts convalescence (duration ten weeks).

It is estimated that the cost of the management of this patient was a quarter of a million pounds which may well be a record sum for the management of one solitary infectious fever case.

Salisbury, 1976

Meanwhile, in the Cathedral City of Salisbury and its environs, the family of the patient and personnel from MRE who had come into contact with the patient, however slight, were placed in quarantine in their own homes. A 'Home and Garden' isolation measure. All were kept under direct and constant surveillance by the Medical Staff of the Health and Safety Department at MRE, and the MOH Salisbury, as advised by DHSS, London. As can be readily understood, the unfolding of this dramatic and unique occurrence in and around Salisbury aroused quite a lot of interest and caused quite a stir, to put it very conservatively.

Fortunately, there were no secondary cases - and Salisbury could breathe again and go about its normal business.

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