

EUROPEAN CLUSTER OF IMPORTED FALCIPARUM MALARIA FROM GAMBIA

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A cluster of 56 patients returning from Gambia with falciparum malaria has been noted in several countries of the European Union since September this year. TropNetEurop, the European Network on Imported Infectious Disease Surveillance, collected and reported the cases. Lack of awareness and, consequently, of prophylactic measures against malaria were apparent in the majority of patients.

On 24 November 2008, TropNetEurop, the European Network on Imported Infectious Disease Surveillance (www.tropnet.eu), received information on falciparum malaria cases imported to Denmark. When this information was distributed, further notifications were received from various member sites in the following days. Apparently, the combination of lack of information about their destination and ignorance of potential malaria risks affected travellers throughout Europe.

Denmark

All Danish travellers bought their journeys at the same travel agency. All stayed at the coast of Gambia at a beach close to the capital Banjul, none of them were travelling around in Gambia.

Patient 1

A man in his late fifties travelled to Gambia for two weeks and returned home in early November 2008. He did not take malaria prophylaxis. He was admitted to a local hospital ten days later with symptoms suggestive of alcohol withdrawal with tremors, difficulty walking, confusion and fever. Malaria was not suspected until family members mentioned that he had been to Gambia, and the diagnosis was first made two days after admission, when parasitaemia was 5.8%. The patient was transferred to a specialised infectious disease unit and treated for cerebral malaria with artesunate and doxycycline, sedated and put on respiratory support in the intensive care unit. The patient is still closely followed up to date, and neurological deficits still continue.

Patient 2

A woman in her fifties travelled to Gambia with a friend (patient 3) for one week in early November 2008. She did not take any malaria prophylaxis and was not vaccinated against yellow fever. Onset of symptoms was six days after her return, when she became disorientated and confused. The following days she stayed in bed with fever and headache. Fortunately, a friend visited her at the eight days later and called a doctor who admitted her to a specialised infectious disease unit. She had clinical signs of cerebral malaria and parasitaemia was 2.2%. She was treated with artesunate and doxycycline and discharged on six days after admission with no sequelae.

Patient 3

A woman in her late forties travelled to Gambia together with patient 2. She did not take any malaria prophylaxis. According to patient 2 she developed fever and diarrhoea about six days after she returned home. Ten days after her return, she was visited in her home by a general practitioner on call and was advised to see her family doctor the next day. The police was notified on the day patient 2 was admitted to hospital, but found patient 3 dead in her home. Autopsy has confirmed that she died from malaria.

Patient 4

A woman in her late forties travelled with a friend (patient 5) to the Gambia for one week in late October 2008. She did not take malaria prophylaxis. Approximately seven days after she returned home, she got diarrhoea followed by fever and headache. After four days she contacted a local hospital because she suspected she could have malaria. The diagnosis was later confirmed at a specialised infectious disease unit in Copenhagen, with falciparum malaria and <1% parasitaemia. Following treatment, the patient was discharged four days later without sequelae.

Patient 5

A woman in her late fifties travelled to Gambia with a friend (patient 4) without taking malaria prophylaxis. She developed fever 6-7 days after she returned home. However, malaria was initially not considered. Two days later she was found in the home with high fever and reduced consciousness. She was admitted on a local hospital and transferred to a department of infectious diseases. Malaria smears showed *Plasmodium falciparum* with 6% parasitaemia. Insufficient ventilation warranted respiratory support. The patient developed a DIC and necrosis/gangrene of eight fingers and toes.

Patient 6

A man in his late sixties travelled to Gambia for one week in November 2008 without any malaria prophylaxis. He was diagnosed with malaria seven days after his return with a parasitaemia of 5%. Following treatment he was discharged seven days later without sequelae.

Patients 7 and 8

Two brothers in their late fifties travelled together to Gambia for one week in early November 2008. They did not take malaria prophylaxis, nor were they vaccinated against yellow fever. The first brother was initially treated by his family doctor with penicillin for an upper respiratory tract infection, before he was admitted to a department of infectious diseases and diagnosed with *falciparum* malaria (3% parasitaemia). Then the police was contacted and a search made for the second brother. He was located in a local hospital to which he had been admitted with cerebral symptoms suggestive of alcohol withdrawal. He was transferred to the same department of infectious diseases and diagnosed with cerebral malaria (5% parasitaemia). Both brothers were treated successfully with parenteral artesunate and oral atovaquone/proguanil.

Following these initial reports from Denmark, further information from other countries was added:

Finland

Twelve cases were reported between 3 and 27 November 2008, all Finnish travellers returning from Gambia [1]. Five of these patients were female, seven were male. Age distribution was between 27 and 66 years. Their travel destinations were tourist resorts near Banjul. Nine travellers did not take any chemoprophylaxis, three used chloroquine prophylaxis. Ten of the 12 patients had received information about the malaria risk and recommended chemoprophylaxis. The duration of their stay in Gambia was between one and two weeks except for one patient who stayed four weeks. Three had complications that required treatment in intensive care, but all three recovered. For nine patients, the diagnosis was made within three days of onset of symptoms. The three patients with complications had been diagnosed with a delay of up to eight days.

Norway

Three patients were reported, two men (39 and 71 years-old), and one woman (48 years-old). None of them used chemoprophylaxis during their stay in Gambia. All three patients visited relatives and friends and stayed in and around Banjul. No complications were reported, all patients recovered.

United Kingdom

Nineteen travellers infected with *falciparum* malaria in Gambia were reported to the Health Protection Agency's Malaria Reference Laboratory between October and December 2008. Their age was between 21 and 62 years. Six patients were female. The majority of patients travelled as tourists (n=9), two visited friends and relatives in the country, two had migrated from Gambia to the United Kingdom (UK), and the reasons for travel of the remaining six patients were unknown. One traveller used chemoprophylaxis with proguanil, 14 took no chemoprophylaxis, and data for the remaining four were not provided.

Spain

Two patients with *falciparum* malaria were noted in Barcelona, Spain. Both were second generation Gambian migrants visiting relatives in Gambia for the first time. They stayed in rural areas in the country for 11 and 13 months, respectively, and did not use chemoprophylaxis. Both were male, one 14 years-old, the other 16 years-old. One of them suffered from uncomplicated malaria and recovered without complications while the other was treated in an intensive care unit due to hypotension, 9.5% parasitaemia, severe anaemia (Hb: 6.5 g/L), low platelet count: 25.000/ μ l, hyperbilirrubinaemia and somnolence. The infection was treated with quinine and doxycycline, and both recovered without sequelae.

The Netherlands

In the Netherlands, 10 Dutch tourists were reported with *falciparum* malaria after returning from Gambia between 21 September and 26 November 2008. The median age was 48 years (range 43-62), six patients were female. Three cases were related (travel companions). The median duration of stay was nine days (range 7-68). Seven travellers did not use malaria chemoprophylaxis, two used homoeopathic drugs (chininum arsenicosum D8) and one tourist stopped atovaquone/proguanil prematurely. The median shortest incubation period was five days (range 0-18). The median interval between the first day of illness and the date of diagnosis was five days (range 0-17). Seven patients were admitted to hospital for treatment. Two patients, aged 45 and 49, died. Both patients had not used chemoprophylaxis. The time to diagnosis was 17 and six days, respectively [3].

Germany

Two patients were reported in Germany. Both were male, one 15 years-old, the other 54 years-old. They travelled to urban areas in Gambia for one and two weeks, respectively. None of them took chemoprophylaxis. Both recovered after a largely uneventful clinical course. The 54 year-old patient had been returning to Gambia for 10 years, always without prophylaxis. The 15 year-old patient was in Africa for the first time, travelling alone from Turkey, where he was borne.

Comment

During the comparatively short time period of two months and a half between September and November 2008, TropNetEurop member sites reported 56 patients returning from Gambia with *falciparum* malaria. Thirty-two of them were male, and 24 female. The age range was 15-71 years.

While the reasons for travel were quite diverse, a striking lack of effective prophylactic measures was apparent in all. Forty-five patients had not used any malaria chemoprophylaxis. All seven

travellers who indicated that they had taken prophylactic drugs used inadequate or downright wrong ones: two took homeopathic prophylaxis, three used chloroquine only, one used paludrine only, and one stopped taking atovaquone/proguanil too early. No data are available for the remaining four patients.

Thus, despite the documented risk of complicated falciparum malaria from Gambia, virtually all patients chose to use no or inadequate prophylaxis [2]. Several were counselled to take this decision by their travel agency, but in a few cases even by their family doctor.

The cluster underlines the necessity of competent pre-travel information and adequate protection in travellers, in particular at times when malaria appears to be decreasing but still remains a high risk for non-immune travellers [4]. Although there probably is an overuse of chemoprophylaxis against malaria among tourists travelling to Asia and Latin America, chemoprophylaxis is a must for most travellers to African destinations, and in particular to west Africa.

References

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