

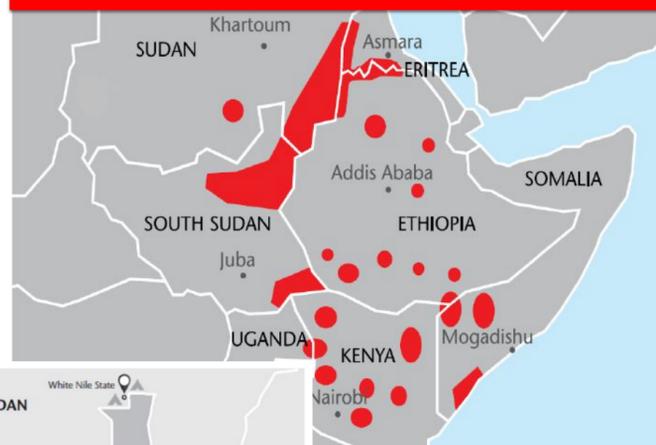
Background

Visceral leishmaniasis, also known as kala azar (KA) is endemic in South Sudan. It occurs in epidemics; each outbreak lasting one or two years, with an interval between outbreaks of 6-10 years.

Lankien is one of the centres where Médecins sans Frontières (MSF) provides diagnosis and treatment for KA. In Lankien, KA outbreaks were described in 2002-2004 and 2010-2011. A new outbreak emerged at the end of 2013, following large scale violence in the region.

The aim of this study is to describe the outbreak and deaths occurred during the period of highest case fatality rate (CFR).

Endemic areas for kala azar in East Africa



Material and Methods

KA case definition is history of fever for more than 2 weeks and one of the following: wasting (<-2 Z-score or <16 BMI) or splenomegaly or lymphadenopathy; cases are confirmed by serological or parasitological tests.

KA data were gathered as part of routine MSF activities in Lankien. Data on admissions and deaths, during the outbreak period (August 2013 to March 2015) were extracted from MSF database. Case fatality rate was calculated using this information.

Medical notes were reviewed for all deaths between July-September 2014: demographic characteristics, clinical presentation, diagnosis and treatment were collected.

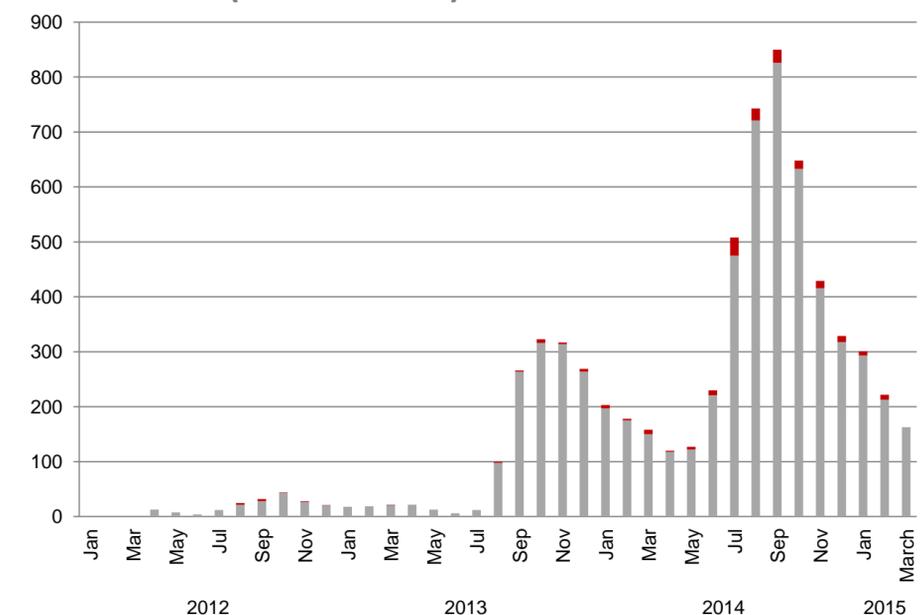
Results

6452 KA patients were identified during the outbreak (August 2013-March 2015). Median monthly admissions were 267, ranging from 100 (August 2013) to 850 (August 2014). Average CFR during the outbreak was 2.3%, ranging from 0% (March 2015) to 6.5% (July 2014). **Figure 1.**

Between July and September 2014, 84 deaths occurred among 2069 KA admissions. 60% were male. Under 5 years-old represented 57.1% of deaths, median age 3 years-old (3 months – 60 years-old). 92.9% of the deceased had primary KA.

The signs and symptoms at clinical presentation included wasting (77.6%), lymphadenopathy (69.9%), cough (67.6%) and splenomegaly (65.9%). Other less common presentations as diarrhoea and vomiting were also present (43.8% and 59.7% respectively).

Figure 1: Monthly KA cases in Lankien from April 2012 to March 2015 (deaths in red).



83.3% of KA deaths had a positive rapid diagnostic test (rK39); 10.3% of primary KA and all relapse deaths were diagnosed through parasitological confirmation (lymph node or spleen aspirates); and 6.4% through direct agglutination test (DAT).

Conclusions

This KA outbreak was unexpected in timing and scale, taking the team by surprise and leading to lack of preparedness in terms of human resources, drug stock and hospital organisation.

The outbreak might have been triggered by a large number of internally displaced people that were infected with KA when hiding in the forests, following mass violence in the region, before settling in Lankien. Late presentation, co-morbidities and malnutrition due to food insecurity contributed to the persistence of the outbreak and high CFR at the peak of the outbreak.