

# Outbreak of dystonic syndrome in Ituri, DRC

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## Background

An outbreak of a dystonic syndrome occurred from December 2014 to September 2015 in the contiguous Health Zones of Adja, Ariwara and Laybo (Democratic Republic of Congo). A total of 1029 persons reported acute dystonic reactions affecting the muscles of the face, eyes, neck, tongue, and/or upper limbs, some with Parkinsonism and oculogyric crises. Initial toxicological analyses revealed the presence of haloperidol in patients' urine, and initial investigations showed that tablets sold as diazepam at local pharmacies were found to contain haloperidol. We investigated the risk factors associated with this dystonic syndrome, and whether other molecules were involved.

## Methods

A prospective case-control study was carried out from 26 June to 30 July 2015. Dystonic syndrome patients were enrolled at the MSF reference treatment centre for dystonic syndrome patients. Two healthy controls were matched to each case by age, sex and village of residence. Cases and controls were interviewed with a standardized questionnaire regarding their medication intake (names of drugs and description of colour, size and shape of tablets) and health seeking behaviour. Urine samples were collected from all cases and a randomly selected sub-group of controls. If cases or controls had leftover medication, one tablet was collected for analysis. A sample of common medications was bought in local pharmacies. Toxicological analyses were carried by Toxipharm Laboratory (Garches, France). Matched odds ratios (OR) were estimated using conditional logistic regression.

## Results

Thirty-six cases and 71 controls were enrolled (20 in control sub-group). Haloperidol was detected in the urine of all 36 cases and in 4/20 controls with samples (OR 16.5, 95% CI 2.1-120.6). Tablets described as "white-big-round", associated with paracetamol, and the tablets described as "yellow-small-round", associated to diazepam, were both strongly associated with the occurrence of the dystonic syndrome (OR 20.1 and 9.8, respectively). The analysis of medication collected from participants and bought in pharmacies, revealed the presence of haloperidol in tablets with the inscription "AGOG" and marketed as diazepam. Of 15 samples of paracetamol tested, haloperidol was not found in tablets.

## Conclusion

This study confirms that the epidemic of the dystonic syndrome was caused by haloperidol. The only source detected in the three Health Zones was tablets of diazepam sold under the name of Agog Pharma.

A dystonic syndrome epidemic in a rural area of the Democratic Republic of Congo was due to the intoxication of haloperidol through the consumption of tablets sold as diazepam.