



UGA145 Part III: Initiation of a Global Network for Aflatoxin Exposure Studies



The third part of the project is the initiation of a global network for aflatoxin exposure studies using our newly developed method. We have measured AFB-Lys adduct levels in human population from different parts of the world which serves as the starting point of establishing a biomarker monitoring based global network.



Figure 1. Geographical distribution of study populations

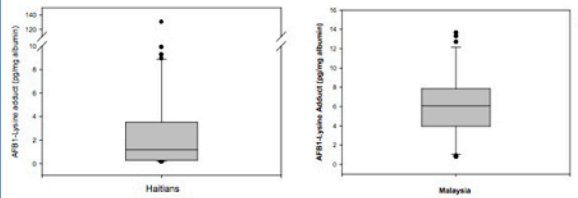
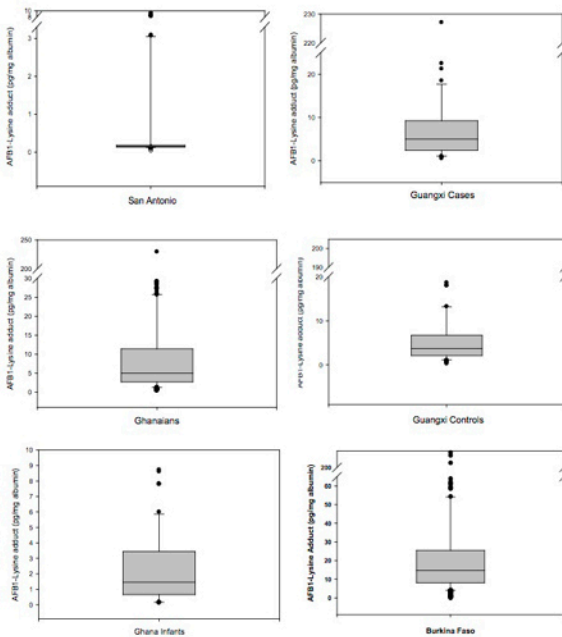


Figure 2. Serum AFB-Lys levels in different study populations

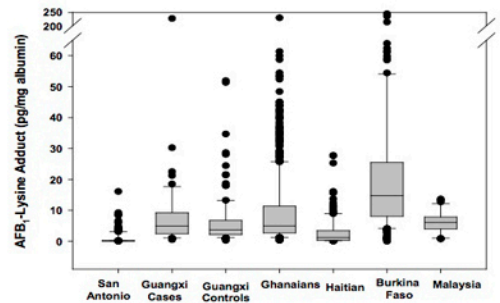


Figure 3. Summary of serum AFB-Lys levels in all study populations

Table 1. Levels of serum AFB-Lys in human samples (pg/mg alb.)

	San Antonio	Guangxi Cases	Guangxi Controls	Ghana Adults
Number	151	68	136	755
Detection rate (%)	17.2	91.2	97.1	90.7
Mean±SD	0.89±2.08	10.60±28.21	7.34±16.56	10.86±19.01
Median	0.15	4.97	3.69	5.01
Range	0.05-16.01	0.54-227.13	0.28-175.83	0.44-286.73

Table 1 continued.

	Ghana Infants	Haitians	Burkina Fas	Malaysia
Number	71	193	340	175
Detection rate (%)	79	76.2	100	98
Mean±SD	2.36±2.44	4.17±12.09	29.89±74.16	6.31±3.54
Median	1.46	1.17	14.73	6.08
Range	0.14-10.02	0.16-130.39	0.56-918.72	0.81-13.67

Conclusions

➤ Varying levels of serum AFB-Lys were found in different populations, ranging from undetectable to 918.72pg/mg alb. Highest concentration was found in Burkina Faso and Guangxi, China. Lowest concentration was found in San Antonio, USA.

➤ Intervention strategies may be conducted for those high exposure populations.

Contributors

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