

제 목	국 문			
	영 문	Symptoms and cholinesterase activity among rural residents living near cotton fields		
저 자 및 소 속	국 문			
	영 문	Matthew Keifer ¹⁾ , Francisca Rivas ¹⁾ , Jai-Dong Moon ¹⁾²⁾ , Harvey Checkoway ¹⁾ ¹⁾ Department of Environmental Health, University of Washington, WA, USA ²⁾ Chonnam National University, Korea		
분 야	산업의학	발 표 자	문재동	
발표 형식	구연	발표 시간	15분	
진행 상황	연구완료 (O), 연구중 () → 완료 예정 시기 : 년 월			
<p>1. 연구 목적</p> <p>Pesticides are intensely applied to cotton by aerial application in Central America; cholinesterase (ChE) inhibitors are among the most toxic. This study was conducted to explore possible health effects of pesticide spray drift on residentially exposed populations.</p> <p>2. 연구 방법</p> <p>100 residents each, 10 years of age or older, were randomly selected from a Nicaraguan community surrounded by actively sprayed cotton fields (the exposed community) and from a socioeconomically similar community far from agricultural operations (the reference community). Subjects working with pesticides were excluded, and the study was conducted at the end of the cotton spray season. Demographic information, exposure questions and prevalence of 11 acute symptoms and 17 chronic symptoms were measured by a structured interview. Finger-stick erythrocyte cholinesterase (AChE) was measured by a portable colorimeter. Acute symptoms were grouped according to their previously known association with ChE-inhibitor exposure into 4 ordinal categories (asymptomatic, non-specific, possible, probable).</p>				

3. 연구결과

Residents from the exposure community were more likely to report: pesticide drift exposure ($p < 0.001$), crossing recently sprayed fields ($p < 0.001$), eating home grown food ($p < 0.001$) and feeling ill after a drift exposure ($p < 0.001$). The mean AChE value, expressed in international units per deciliter, was significantly lower for residents of the exposed community (4.9 vs. 5.3, $p < 0.01$). The proportion of subjects complaining of one or more chronic or acute symptoms was significantly higher for the exposed community (87% for the exposed community vs. 53% for the reference community, $p < 0.001$). The odds ratios for residence in the exposed community, by symptom categories, were: non-specific 1.6 (95% C. I. 0.8 - 3.2), possible 4.1 (C.I. 1.7 - 10.2) and probable 9.93 (C.I. 2.9 - 34.4).

4. 고찰

These findings show a strong and consistent effect of residence in an aerially exposed community as a predictor of increased symptoms. This study should be replicated with more quantitative exposure measures, for if confirmed, the results have relevance for millions in rural communities world-wide.