

***Campylobacter* Develops Resistance to Antibiotic**

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Fecha: 21/05/08

US - According to researchers of the Food Safety Consortium, working in the University of Arkansas, recent studies have shown a connection between people, who became infected with *Campylobacter jejuni*, a pathogen found in poultry, and their contact with certain chicken products that contained the pathogen.

It also turned out that the *Campylobacter jejuni* from those products was becoming resistant to ciprofloxacin, a synthetic antibiotic used by humans to fight bacterial infections. The prevalence of *Campylobacter* — a major cause of foodborne illness — is common on raw poultry. Of these bacteria only *Campylobacter jejuni* is predominantly pathogenic to humans.

The situation prompted Food Safety Consortium scientists at the University of Arkansas to examine raw chicken carcasses purchased in two Fayetteville, Ark., grocery stores each week for nearly a year.

After examining the 392 chicken carcasses, they found that 85 percent of the chickens purchased from one store had countable levels of *Campylobacter*, with 27 percent of it resistant to ciprofloxacin. At the other store, 46 percent of the carcasses had detectable *Campylobacter* and 6 percent of that was resistant to ciprofloxacin.

Ramakrishna Nannapaneni, who conducted the research while at Arkansas as a food science post-doctoral associate, said that ciprofloxacin has never been used in animals.

However, it is closely related to two other antibiotics, enrofloxacin and sarafloxacin, which were previously approved for usage in poultry between 1995 and 2000 before they were banned on Sept. 12, 2005.

“When *Campylobacter* became resistant to enrofloxacin or sarafloxacin, it also showed cross-resistance to other fluoroquinolones (a group of antibiotics), such as in human medicine against ciprofloxacin,” said Nannapaneni, now an assistant professor of food science at Mississippi State University.

The results showed a variance in the levels of *Campylobacter* between the two stores and also the levels of resistance to ciprofloxacin, with one store having markedly lower numbers in each category. Nannapaneni said the difference could be because of variations in packing and storage conditions at the two stores or differences in management of the poultry before harvesting.

“There is a clear need for monitoring the persistence and quantitative reduction of the total antibiotic-resistant *Campylobacter* loads in the food chain,

particularly on raw animal food products, in efforts to control human *Campylobacteriosis*,” Nannapaneni said.