Campylobacter data from a Turkish University hospital laboratory

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To the Editor,

Campylobacter spp. are primarily zoonotic, with a variety of animals implicated as reservoirs for human infection. Campylobacteriosis is common in both developed and nondeveloped countries. Definitive diagnosis requires isolation of bacterium in culture (i.e. "gold standard"). Due to underdiagnosis and underreporting, actual incidence of infection in any country is substantially greater than reported incidence (1). Here, we report laboratory-based surveillance data collected between 2009 and 2012 in Yeditepe University Hospital (JCI Accredited, 2010-2013, Istanbul, Turkey) Medical Laboratories (ISO-EN 15189 Accredited by DACH, 2009-2014), Microbiology Section, Bacteriology Subdisciplinary Laboratory. Routine laboratory workflow for faecal specimen cultures included algorithms for isolation and identification of major bacterial pathogens for enteric infections. National Laboratory Surveillance Network for Enteric Pathogens (Microbiology Reference Laboratories, Turkish Public Health Institute, Ankara) requires laboratory-based direct reporting of Salmonella spp., Shigella spp., Enterohemorrhagic Escherichia coli (EHEC) (i.e O157 and non-O157) and Campylobacter spp. isolates. Among 3510 faeces cultures, Salmonella spp. (n = 135), Shigella spp. (n = 2), Campylobacter spp. (n = 142) and Aeromonas spp. (n = 4) isolates were detected. Out of 142 Campylobacter spp. isolates, the distribution was as follows : C. jejuni (115), C. upsaliensis (13), C. coli (6) and other species (8). Faecal samples were cultured in Campylobacter-BAP medium (Salubris, Turkey) and incubated under microaerophilic conditions (CampyGen, Oxoid, UK) at 42°C for 48 hours. Suspected colonies were examined by Gram stain and evaluated for oxidase and catalase positivity. Subsequently, suspected isolates were also characterized with Campylobacter latex agglutination test (Dryspot, Oxoid, UK) and API CAMPY biochemical identification system (bioMérieux, France). Antimicrobial susceptibility of isolates against erythromycin was also tested with API CAMPY system (bioMérieux, France). The distribution of isolates, demographic information and seasonal epidemiology in patients with Campylobacteriosis are shown (Table 1, Fig. 1). In faecal cultures, Campylobacter spp. were the most frequently isolated bacterial enteric pathogen, and relative frequency of Campylobacteriosis was 50%. Most studies report that Campylobacter infections are typically seen in summer season whereas our data show that infections occurred most frequently in March, May, July and August (2,3,4). Mostly Campylobacteriosis cases are managed by fluid therapy, however antibiotic therapy may be required in severe cases. Macrolide resistance rate is lower than 5% in most countries while increasing in some areas of the world due to ribosomal mutations. Fluoroquinolone resistance rates are between 10% and 20% in most Europe countries, however higher rates up to 50% may be observed in many developing countries (5). In antimicrobial susceptibility testing of Campylobacter spp., disk diffusion, broth microdilution, agar dilution or Etest methods may be used. CLSI suggests disk diffusion and broth microdilution methods as standardized antimicrobial susceptibility tests in Campylobacter spp (6). In our routine laboratory workflow, erythromycin susceptibility is tested with API CAMPY System, bioMérieux, France. In this study period, erythromycin resistance rate was 7%. Reported fluoroquinolone and macrolide resistance rates in Campylobacter spp. may considerably vary between countries. Therefore, laboratory-based surveillance is an important tool for early detection of changes in local epidemiology of antimicrobial resistance in Campylobacter spp.

Table 1. — **Distribution of isolates among age**

	0-5 age (n = 52)	6-14 age (n = 42)	15-34 age (n = 27)	> 35 age (n = 17)
Campylobacter jejuni	82.7%	83.3%	77.8%	70.6%
Campylobacter spp.	5.8%	7.2%	3.7%	5.9%
Campylobacter coli	1.9%	2.4%	7.4%	11.7%
Campylobacter upseliensis	9.6%	7.1%	11.1%	11.8%

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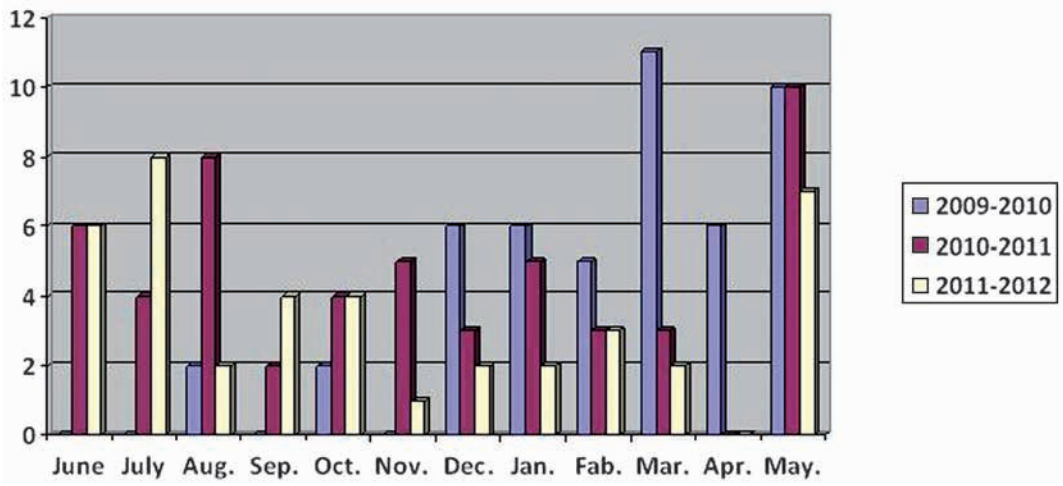

Fig. 1. — Figure 1 shows the seasonal epidemiology in our patients with Campylobacteriosis occuring most frequently in March, May, July and August.

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