OLB17
2-hour Oral Session
Late breaker session: Refugee and migrant health

Salmonella and Shigella colonization identified by a screening programme in refugees arriving in the federal state of Thuringia, Germany in 2015

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Background: Refugees arriving in Thuringia, a federal state in the centre of Germany, are housed at reception centres for up to several weeks. Refugees are vulnerable to diarrhoeal diseases, because they often have a poor physical state and live in overcrowded shelters with limited personal hygiene and sanitary facilities. Upon arrival in Thuringia, since 2000 an obligatory entry health examination includes a screening of stool samples for Salmonella spp., Shigella spp., intestinal protozoa and helminths. We evaluated this surveillance programme regarding the detection of Salmonella and Shigella for the year 2015.

Material/methods: Stool samples were cultured for Salmonella and Shigella on MacConkey agar, deoxycholate citrate agar and in selenite broth. Suspect colonies were identified by matrix-assisted laser desorption/ionization time-of-flight mass spectrometry, by Vitek 2 compact, and by serotyping using slide agglutination. Antibiotic susceptibility testing was performed using the Vitek 2 compact. Clinical data from positive cases were collected by public health authorities.

Results: In 2015, a total of 20,312 stool samples from refugees were investigated. The main countries of origin were Syria (54.5%), Afghanistan (21.2%), Iraq (14.0%), the Balkan States (Albania, Kosovo, Serbia, Macedonia, Montenegro, 8.3%), Eritrea (1.4%), and Somalia (0.5%). The age ranged from 0 to 74 years, mean 22 years. Salmonella spp. were detected in 39 individuals (0.2%), including 35 strains of 20 different enteric serovars, 2 *Salmonella* Typhi (both from Syria), 1 *Salmonella* Paratyphi A and 1 *Salmonella* Paratyphi B systemic pathovar (both from Afghanistan). One isolate of *S.*Typhi and the *S.* Paratyphi A isolate were resistant to ciprofloxacin. Shigella spp. were found in 22 individuals (14 from Syria, 3 from Afghanistan, 3 from Iraq, 2 from Eritrea), including 14 *Shigella sonnei* and 8 *Shigella flexneri* isolates. Susceptibility testing revealed that 6 Shigella species (4 *S. sonnei*, 2 *S. flexneri*) expressed extended-spectrum betalactamases (ESBL). In addition, 2 of these 6 Shigella isolates were resistant to ciprofloxacin. All ESBL-positive Shigella cases originated from children aged 1 to 9 years from Syria. One patient suffered from typhoid fever, three patients from salmonellosis, and three patients from shigellosis. The other cases did not have any compatible illnesses. Affected individuals or families with children were informed about the transmission of the disease and separated inside the reception facility with a separate toilet. No outbreak of salmonellosis or shigellosis occurred in the reception facilities and no secondary cases among local residents were reported.

Conclusions: The Thuringian surveillance programme for the year 2015 showed that 0.3% of the refugees carried Salmonella or Shigella. Six ESBL-positive Shigella strains were isolated from children from Syria, two of these strains were also resistant to ciprofloxacin. Because of these data, the

surveillance programme with screening for Salmonella and Shigella in children is being continued in 2016.