PWE-078

INCIDENCE OF FUNCTIONAL INTESTINAL DISORDERS AND POSTINFECTIOUS IRRITABLE BOWEL SYNDROME FOLLOWING A WATERBORNE VIRAL GASTROENTERITIS OUTBREAK

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Introduction Postinfectious irritable bowel syndrome (PI-IBS) may develop in 4–30% of patients following bacterial gastroenteritis (GE), but limited information is available on outcome of viral GE. On summer 2009 a massive community outbreak of Norovirus and Enterovirus GE occurred in San Felice (Lake Garda, Italy) due to contamination of municipal drinking water.¹ In order to investigate the natural history of a community outbreak of viral gastroenteritis and to assess the incidence of functional gastrointestinal disorders and PI-IBS, we carried out a prospective population-based cohort study with control group.

Methods Baseline questionnaires were administered to residents within 1 month of the outbreak. Follow-up questionnaires of the Italian version of Gastrointestinal Symptom Rating Scale (GSRS, a 15 item survey scored according to a 7-point Likert scale) were mailed to patients responding to baseline questionnaire at 3 and 6 months and to a cohort of unaffected controls, living in the same area, at 6 months after the outbreak. GSRS item were grouped into five dimensions: abdominal pain, reflux, indigestion, diarrhoea and constipation. At month 12 all patients and controls were interviewed by an health assistant in order to verify Rome III criteria of IBS. T test and χ^2 or fisher's exact test were used as appropriate.

Results Baseline questionnaires were returned by 348 patients: mean age $\pm$ SD 45 $\pm$ 22 years, 53% female. At outbreak nausea (score ≥ 4), vomiting and diarrhoea lasting 2–3 days or more were reported by 66%, 60% and 77% of patients, respectively. Fifty per cent reported fever and 19% referred weight loss

(mean 3 kg). Follow-up surveys were returned at month 6 by 185 patients and 168 controls: mean of GSRS score for each dimension is reported in the figure. At month 12 we identified 40 patients with a new diagnosis of IBS (Rome III criteria), in comparison with 3 subjects in the control cohort ($p < 0.0001$; OR 11.40, 3.44 to 37.82, 95%CI). The 40 cases of PI-IBS were subtyped according to the predominant stool pattern,² as follows: 4 IBS with constipation, 7 IBS with diarrhoea, 16 with mixed IBS and 13 with unsubtyped IBS (figure 1).

Conclusion Our study provides evidence that mixed Norovirus and Enterovirus GE leads to postinfectious gastrointestinal disorders which persist for at least 12 month after infection. PI-IBS following viral infections develops in a substantial proportion of patients (22%) similar to that reported after bacterial GE.

Competing interests None.

Keywords Enterovirus, Irritable bowel syndrome, Norovirus.

REFERENCES

1. Scarcella et al. *Eurosurveillance* 2009.
2. Longstreth et al. *Gastroenterology* 2006.

Figure 1 PWE 078