

**00189 Outbreak of invasive *Streptococcus pyogenes* infections in a Tunisian burns unit**Basma Mnif<sup>1</sup>, Nesrine Sallem<sup>1</sup>, Adnene Hammami<sup>1</sup><sup>1</sup> Laboratory of Microbiology; Habib Bourguiba University Hospital, Sfax, Tunisia

**Background:** Outbreaks of group A streptococcus (GAS) infections may occur in healthcare settings. Transmission to patients may be linked to a contaminated environment and/or to colonized healthcare workers (HCWs). The aim of the study was to describe the investigation and control of an outbreak of invasive GAS infections in a burn unit.

**Materials/methods:** Over a period of 9 days, 3 patients developed bacteraemia due to GAS infection without a clinically obvious site of infection in the burn unit of Habib Bourguiba hospital, Sfax, Tunisia. An outbreak investigation was undertaken involving a retrospective review of GAS cases, prospective case finding, HCW screening and environmental sampling. All GAS isolates were typed by Sma-I pulsed field gel electrophoresis (PFGE) and *emm* typing.

**Results:** Retrospective and prospective case finding identified 6 patients with GAS bacteraemia over a period of one month, two of them died due to a toxic shock syndrome. Environmental sampling was negative; however, the staff screening identified one healthcare worker with throat GAS carriage. All the 6 patient isolates and the HCW isolate were typed as *emm1* and were assigned to the same pulsotype by PFGE.

Immediate control measures included source isolation and additional cleaning of the ward environment with a chlorine disinfectant. No additional cases were detected after the HCW antibiotic carriage eradication. The on-going surveillance with PFGE typing of all SGA strains isolated over a one-year period didn't show the same outbreak pulsotype.

**Conclusions:** This is an example of rapid and successful GAS outbreak containment through prompt investigation to identify the likely source of the outbreak. HCW may be the source of a GAS outbreak. Therefore, HCW screening must be undertaken by throat and also perineal sampling.

