

Escherichia coli as the Cause of the May 2011 Outbreak

Haemolytic Uraemia Syndrome is a disease that is characterised by 3 factors, thrombocytopenia (low platelet count), thrombotic microangiopathy (blood clots in small blood vessels) and haemolytic anaemia (low haemoglobin count due to increased destruction of red blood cells) (Mayer et al. 2012). The infections of this due to E.coli typically originate from uncooked, or undercooked, vegetables or meat that is contaminated with faecal matter. The most common type of E.coli that causes this is E.coli O157:H7, which is an enterohaemorrhagic strain of E.coli. This serotype was responsible for an outbreak in 1993 due to undercooked hamburgers (Mayer et al. 2012).

Theodore Escherich was the first to note that E.coli had a high prevalence in the normal intestinal flora of healthy individuals. However, he also noted that it had the ability to cause disease in humans when it was directly introduced in to 'extra-intestinal' sites (R.M.R. Browne et al. Hartland. 2002). Enterohaemorrhagic E.Coli (EHEC) is primarily a human pathogen but their main reservoir hosts are cattle, sheep and goats (ruminants) which are all asymptomatic carriers. This was why, in the first days of the outbreak, ruminants were suspected but later were found not to be the source (Denis Piéard et al. 2012). The actual source of the Germany outbreak was due to contaminated bean sprouts, and once these were identified their distribution was halted. However, this didn't stop the infection spreading by secondary transmission. Secondary Transmission is transmission of the pathogen by person to person contact and mainly occurs between people in the same house-hold (Robert Koch Institute. 2011).

Detection of EHEC O104:H4 became quicker and easier when F.Scheutz et al. published a paper containing a quick screening method that could be used in 'primary and secondary