SOCIAL MEDIA AND INFECTION CONTROL: TRENDING TOPIC?

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WHO ARE WE?

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SOCIAL MEDIA
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2011 EHEC OUTBREAK

- Limited use of social networks and microblogging
- News websites (e.g., nu.nl) very popular
- Traditional media very popular
2011 EHEC OUTBREAK

Verotoxin-producing *Escherichia coli*

From Wikipedia, the free encyclopedia

Verotoxin-producing *Escherichia coli* comprise strains of the bacterium *Escherichia coli* that, when infecting humans, have been linked with the severe complication hemolytic-uremic syndrome (HUS). They are known by a number of names, including enterohemorrhagic *E. coli* (EHEC), Shiga-like toxin-producing *E. coli* (STEC or SLT-E), hemolytic uremic syndrome-associated enterohemorrhagic *E. coli* (HUSEC, or virulent strains of STEC), and verotoxigenic or verotoxin-producing *E. coli* (VT-E).[1]

All these *E. coli* strains produce *Shiga-like toxin* (also known as verotoxin), a major cause of *foodborne illness*. These are distinguished from other pathotypes of intestinal pathogenic *E. coli* including enterotoxigenic *E. coli* (ETEC), enteropathogenic *E. coli* (EPEC), enteroinvasive *E. coli* (EIEC), enteroaggregative *E. coli* (EAEC), and diffusely adherent *E. coli* (DAEC).[2]

The best known of these strains is O157:H7, but there are non-O157 strains which cause an estimated 36,000 illnesses, 1,000 hospitalizations and 30 deaths in the United States yearly.[3] Food safety specialists recognize “Big Six” strains, O26, O45, O103, O111, O121, and O145.[4] A 2011 outbreak in Germany was caused by another STEC, O104:H4. This strain has both enterohemorrhagic and enterotoxigenic properties. Both the O145 and O164 strains can cause hemolytic-uremic syndrome, the former strain shows to account for 2% to 5% of known HUS cases; it has been estimated that 56% of such cases are caused by O145 and 14% by other EHEC strains.[5]

EHEC that induces bloody diarrhea leads to HUS in 10% of cases. The clinical manifestations of post-diarrheal HUS include *acute renal failure*, *microangiopathic hemolytic anemia*, and *thrombocytopenia*. The verotoxins (shiga-like toxins) can directly damage renal and endothelial cells. Thrombocytopenia occurs as platelets are consumed by clotting. Hemolytic anemia results from intravascular fibrin deposition, increased fragility of red blood cells, and fragmentation.[6]

Antibiotics are of questionable value and have not shown to be of clear clinical benefit. Antibiotics that interfere with DNA synthesis such as *fluoroquinolones* have been shown to induce the Siphic-bearing bacteriophage and cause increased production of toxins.[7] Attempts to block toxin production with antibacterial agents which target the ribosomal protein synthesis are conceptually more attractive. Plasma exchange offers a controversial but possibly helpful treatment. The use of antimotility agents (medication that suppresses diarrhea by slowing bowel transit) in children under 10 years of age or in elderly patients should be avoided as it increases the risk of HUS with EHEC infections.[8]

References

TICK BITES AND LYME

- Increasing number of tick bites and GP consults
- App to increase prevention, control and necessary GP visits
Mark is 54 years old and planning engineer for a construction company. He lives together with his wife. Together, they have two children (21 and 19 years old) that live on their own by now. They don’t live completely alone though, together they take care for their dog: Tommy.

Fortunately, Mark has never been bitten by tick. But he does know some things about the bug. He knows that it’s an insect that bites and sucks your blood. He also knows it can give you Lyme disease. Finally, he thinks that ticks fall down on you from trees, and that if you’re bitten you should visit your GP to get the tick removed. Mark has seen ticks before, Tommy takes them home now and again. Then, Mark or his wife remove them with tick pliers.

Mark does not visit nature very often. In the summer he likes to sit in his backyard, and when they go on vacation he and his wife like to make long walks through the forests or the mountains. He does not take preventive measures to prevent a tick bite then. He also doesn’t check for tick bites afterwards. It simply does not cross his mind.

His digital skills are perfectly fine, Mark thinks. After all, he thinks it’s fun to try out new technology and he has numerous apps on his iPhone 4g. He takes his phone everywhere and never turns it off. Mark will only start to search for information about ticks on the Internet or on his iPhone when he notices he’s been bitten by a tick. In that case, he will Google first, but will also check out the website of his Local Health Authority.

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TICK BITES AND LYME

- Checking for tick bites before preventing tick bites
- Help people to estimate the risks they run
- Help people to understand when to see their GP
TICK BITES AND LYME
TICK BITES AND LYME
FACEBOOK, TWITTER AND LYME
SOCIAL MEDIA: DO OR DON’T?

- Social media are NOT the holy grail
- In some cases they work, in some cases they don’t
- Promising areas: chronic conditions, educating the public (via wikis)