

Enterohemorrhagic E coli

VTEC, Verotoxin producing E. coli

General:

VTEC are found worldwide and are considered the third most frequent cause of diarrhea after salmonella and campylobacter. Obligatory factors of the VTEC are “Shiga-like” toxins I and II (cyto- or verotoxin) encoded by bacteriophages. These verotoxins bind with high affinity to glycolipid Gb3 which is primarily found in kidney cells and B lymphocytes. This could explain the immunosuppressive effect of the toxins. VTEC shows different anti-gens (e.g. O157:H7). Sources of infection: insufficiently cooked, raw beef minced meat (“fast food”), unpasteurized milk, contaminated water, smear infections, cattle, sheep and goat excrements.

Symptoms: After an incubation period of 3-9 days, intestinal cramps, aqueous hemorrhagic diarrheas occur without slime. The uncomplicated form persists approx. 1 week up to 10 days and is usually self-limiting without therapy. 10% of the cases develop life-threatening complications, especially in children during the first years of life: hemolytic-uremic syndrome (HUS: hemoly-sis, anemia, thrombocytopenia, nephropathy, exsiccosis). This can be worsened by antibiotics (ampicillin, cotrimoxazole)! VTEC has been de-scribed as a cause of hemorrhagic colitis.

Diagnostics: The microorganism is generally detectable in stool 2-3 days after manifestation, and persists up to 1 month. Three negative stool tests must be done to show that the microorganism has been eliminated.

The following tests are available:

Indication: aqueous diarrhea or hemorrhagic colitis with vomiting and cramps, suspicion of HUS in childhood or aged persons, necrotizing enteritis, contact persons.

Material: 5 g stool

TAT: 7-10 days*

Method: Culture, PCR

Ref. range: negative

Note: often Hb decrease, LDH rise, haptoglobin consumption, thrombocytopenia and appearance of abnormal erythrocytes (“burr cells”) in the blood smear.

For complete list of laboratory test offered at Freiburg Medical Laboratory, please visit <http://www.fml-dubai.com/parameter-listings/>