

SALMONELLA & SHIGELLA

<p>SALMONELLA</p> <p>Gram negative facultative anaerobic bacilli, motile.</p> <p>Non lactose fermenting colonies.</p> <p>Types: s.enterica & s.borgori.</p> <p>Cold blooded animal, birds, rodents, turtles, snake and fish (affect animals).</p> <p>Virulence factors: Fimbria – Adherence, Enterotoxin (not powerful as cholera).</p>	<p>Antigenic structures</p> <p>K. capsular antigen.</p> <p>V_i For salmonella serotype Typhi (virulence) vs phagocytosis.</p> <p>O Antigen (Heat – stable) is lipopolysaccharide in the out membrane.</p> <p>H.antigen (Heat labile) phase I and 2 (phase I specific).</p>	<p>Clinical features</p> <p>Acute gastroenteritis.</p> <p>Typhoid fever.</p> <p>Nontyphoidal bacteremia.</p> <p>Carrier state following salmonella infection.</p>	<p>Enteric fever</p> <p>Prolonged fever, Bacteremia, Involvement of the reticulo endothelial system (liver, spleen, intestines and mesentery).</p> <p>IP 9 – 14 days.</p> <p>1st week: fever, malaise, anorexia, myalgia & a continuous dull frontal headache then development of constipation.</p> <p>Mesenteric lymph node → blood stream liver, spleen & bone marrow.</p> <p>Engulfment of salmonella by mononuclear phagocytes (multiply intercellularly).</p> <p>Released into the blood stream again that can lead to high fever (blood culture positive).</p> <p>2nd and 3rd week: sustain fever prolonged bacteremia, Invade gallbladder and payer's patches. Rose spots 2nd week of fever.</p> <p>Biliary tract → GIT</p> <p>Treatment: ampicillin ,cotrimoxazole chlorapenicol, if resistant ceftriaxone & ciprofloxacin.</p>
<p>Other classification</p> <p>✓ Salmonella typhi & S. paratyphi the source is human only.</p>	<p>Treatment</p> <p>Chloramphenicol.</p> <p>Ampicillin.</p> <p>Trimelhoprim – sulfamethoxazole.</p> <p>Fluid replacement.</p> <p>✓ Antibiotic given only if systemic.</p>	<p>Gastroenteritis</p> <p>Infective dose 10⁶ bacteria.</p> <p>IP 8 – 36 hrs.</p> <p>N IV, fever, chills, watery diarrhea & abd pain, self limiting.</p> <p>In sickle cell, hemolytic disorder & ulcerative colitis, elderly or very young patient the infection may be very severe.</p> <p>At high risk for dissemination.</p>	

<p>SHIGELLA</p> <p>Cause bacillary dysentery (blood, mucus & pus in the stool).</p> <p>Non lactose fermenter, Nonmotile.</p>	<p>Antigenic structure</p> <p>All have O antigens some serotype has K antigen (heat labile removed by boiling).</p> <p>Shigella are non motile lack H antigen.</p>	<p>Clinical infection</p> <p>S.sonnei most predominant in USA (fever, watery diarrhea).</p> <p>S.flexneri 2nd most common → gays.</p> <p>S. dysenteriae & s. boyclii → developing countries.</p> <p>S. dysenteriae type I (sever).</p> <p>Human is the only reservoir.</p> <p>Low infective dose < 200 bacilli.</p> <p>Penetrate epithelial cells leads to local inflammation, shedding of intestinal lining & ulcer formation.</p>	<p>Symptoms</p> <p>High fever, chill, abdominal cramp & pain accompanied by tenesmus of bloody stool with mucus & WBC.</p> <p>IP 24 – 48 hrs.</p> <p>Can lead to rectal prolapsed in children.</p> <p>Complication ileus, obstruction dilatation & toxic mega colon.</p> <p>Bacteremia in 4 % of severely ill patient.</p> <p>Seizures, HUS.</p>	<p>Culture</p> <p>1st week → blood</p> <p>2nd week → stool</p> <p>3rd week → urine</p>	<p>Complications</p> <p>Necrotizing cholecystitis.</p> <p>Bowel hemorrhage & perforation.</p> <p>Pneumonia & thrombophlebitis.</p> <p>Meningitis, osteomyelitis, endocarditis & abscesses.</p>	<p>✓ Salmonella cause more bacteremia than Shigella.</p>
	<p>Treatment</p> <p>Is a must in all cases of shigella except s.sonnii (self limiting).</p> <p>Other ampicillin, cotrimoxazole & ciprofloxacin.</p>					