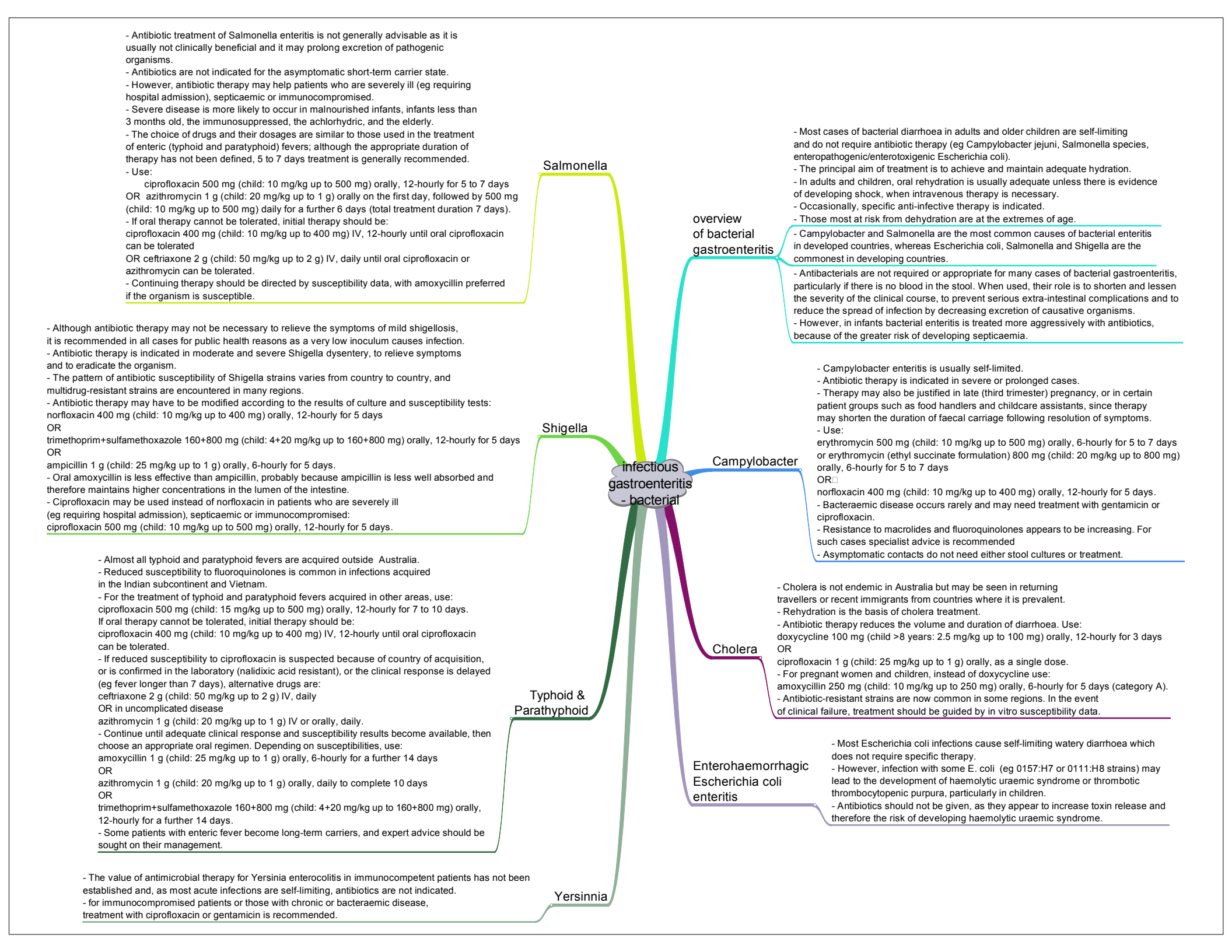
infectious gastroenteritis - bacterial
Salmonella
- Antibiotic treatment of Salmonella enteritis is not generally advisable as it is usually not clinically beneficial and it may prolong excretion of pathogenic organisms.
- Antibiotics are not indicated for the asymptomatic short-term carrier state.
- However, antibiotic therapy may help patients who are severely ill (eg requiring hospital admission), septicaemic or immunocompromised.
- Severe disease is more likely to occur in malnourished infants, infants less than 3 months old, the immunosuppressed, the achlorhydric, and the elderly.
- The choice of drugs and their dosages are similar to those used in the treatment of enteric (typhoid and paratyphoid) fevers; although the appropriate duration of therapy has not been defined, 5 to 7 days treatment is generally recommended.
- Use:
ciprofloxacin 500 mg (child: 10 mg/kg up to 500 mg) orally, 12-hourly for 5 to 7 days
OR azithromycin 1 g (child: 20 mg/kg up to 1 g) orally on the first day, followed by 500 mg (child: 10 mg/kg up to 500 mg) daily for a further 6 days (total treatment duration 7 days).
- If oral therapy cannot be tolerated, initial therapy should be:
ciprofloxacin 400 mg (child: 10 mg/kg up to 400 mg) IV, 12-hourly until oral ciprofloxacin can be tolerated
OR ceftriaxone 2 g (child: 50 mg/kg up to 2 g) IV, daily until oral ciprofloxacin or azithromycin can be tolerated.
- Continuing therapy should be directed by susceptibility data, with amoxycillin preferred if the organism is susceptible.
Shigella
- Although antibiotic therapy may not be necessary to relieve the symptoms of mild shigellosis, it is recommended in all cases for public health reasons as a very low inoculum causes infection.
- Antibiotic therapy is indicated in moderate and severe Shigella dysentery, to relieve symptoms and to eradicate the organism.
- The pattern of antibiotic susceptibility of Shigella strains varies from country to country, and multidrug-resistant strains are encountered in many regions.
- Antibiotic therapy may have to be modified according to the results of culture and susceptibility tests:
norfloxacin 400 mg (child: 10 mg/kg up to 400 mg) orally, 12-hourly for 5 days
OR
trimethoprim+sulfamethoxazole 160+800 mg (child: 4+20 mg/kg up to 160+800 mg) orally, 12-hourly for 5 days
OR
ampicillin 1 g (child: 25 mg/kg up to 1 g) orally, 6-hourly for 5 days.
- Oral amoxycillin is less effective than ampicillin, probably because ampicillin is less well absorbed and therefore maintains higher concentrations in the lumen of the intestine.
- Ciprofloxacin may be used instead of norfloxacin in patients who are severely ill (eg requiring hospital admission), septicaemic or immunocompromised:
ciprofloxacin 500 mg (child: 10 mg/kg up to 500 mg) orally, 12-hourly for 5 days.
Typhoid & Parathyphoid
- Almost all typhoid and paratyphoid fevers are acquired outside Australia.
- Reduced susceptibility to fluoroquinolones is common in infections acquired in the Indian subcontinent and Vietnam.
- For the treatment of typhoid and paratyphoid fevers acquired in other areas, use:
ciprofloxacin 500 mg (child: 15 mg/kg up to 500 mg) orally, 12-hourly for 7 to 10 days.
If oral therapy cannot be tolerated, initial therapy should be:
ciprofloxacin 400 mg (child: 10 mg/kg up to 400 mg) IV, 12-hourly until oral ciprofloxacin can be tolerated.
- If reduced susceptibility to ciprofloxacin is suspected because of country of acquisition, or is confirmed in the laboratory (nalidixic acid resistant), or the clinical response is delayed (eg fever longer than 7 days), alternative drugs are:
ceftriaxone 2 g (child: 50 mg/kg up to 2 g) IV, daily
OR in uncomplicated disease
azithromycin 1 g (child: 20 mg/kg up to 1 g) IV or orally, daily.
- Continue until adequate clinical response and susceptibility results become available, then choose an appropriate oral regimen. Depending on susceptibilities, use:
amoxycillin 1 g (child: 25 mg/kg up to 1 g) orally, 6-hourly for a further 14 days
OR
azithromycin 1 g (child: 20 mg/kg up to 1 g) orally, daily to complete 10 days
OR
trimethoprim+sulfamethoxazole 160+800 mg (child: 4+20 mg/kg up to 160+800 mg) orally, 12-hourly for a further 14 days.
- Some patients with enteric fever become long-term carriers, and expert advice should be sought on their management.
Yersinnia
- The value of antimicrobial therapy for Yersinia enterocolitis in immunocompetent patients has not been established and, as most acute infections are self-limiting, antibiotics are not indicated.
- for immunocompromised patients or those with chronic or bacteraemic disease, treatment with ciprofloxacin or gentamicin is recommended.
overview of bacterial gastroenteritis
- Most cases of bacterial diarrhoea in adults and older children are self-limiting and do not require antibiotic therapy (eg Campylobacter jejuni, Salmonella species, enteropathogenic/enterotoxigenic Escherichia coli).
- The principal aim of treatment is to achieve and maintain adequate hydration.
- In adults and children, oral rehydration is usually adequate unless there is evidence of developing shock, when intravenous therapy is necessary.
- Occasionally, specific anti-infective therapy is indicated.
- Those most at risk from dehydration are at the extremes of age.
- Campylobacter and Salmonella are the most common causes of bacterial enteritis in developed countries, whereas Escherichia coli, Salmonella and Shigella are the commonest in developing countries.
- Antibacterials are not required or appropriate for many cases of bacterial gastroenteritis, particularly if there is no blood in the stool. When used, their role is to shorten and lessen the severity of the clinical course, to prevent serious extra-intestinal complications and to reduce the spread of infection by decreasing excretion of causative organisms.
- However, in infants bacterial enteritis is treated more aggressively with antibiotics, because of the greater risk of developing septicaemia.
Campylobacter
- Campylobacter enteritis is usually self-limited.
- Antibiotic therapy is indicated in severe or prolonged cases.
- Therapy may also be justified in late (third trimester) pregnancy, or in certain patient groups such as food handlers and childcare assistants, since therapy may shorten the duration of faecal carriage following resolution of symptoms.
- Use:
erythromycin 500 mg (child: 10 mg/kg up to 500 mg) orally, 6-hourly for 5 to 7 days
or erythromycin (ethyl succinate formulation) 800 mg (child: 20 mg/kg up to 800 mg) orally, 6-hourly for 5 to 7 days
OR
norfloxacin 400 mg (child: 10 mg/kg up to 400 mg) orally, 12-hourly for 5 days.
- Bacteraemic disease occurs rarely and may need treatment with gentamicin or ciprofloxacin.
- Resistance to macrolides and fluoroquinolones appears to be increasing. For such cases specialist advice is recommended
- Asymptomatic contacts do not need either stool cultures or treatment.
Cholera
- Cholera is not endemic in Australia but may be seen in returning travellers or recent immigrants from countries where it is prevalent.
- Rehydration is the basis of cholera treatment.
- Antibiotic therapy reduces the volume and duration of diarrhoea. Use:
doxycycline 100 mg (child >8 years: 2.5 mg/kg up to 100 mg) orally, 12-hourly for 3 days
OR
ciprofloxacin 1 g (child: 25 mg/kg up to 1 g) orally, as a single dose.
- For pregnant women and children, instead of doxycycline use:
amoxycillin 250 mg (child: 10 mg/kg up to 250 mg) orally, 6-hourly for 5 days (category A).
- Antibiotic-resistant strains are now common in some regions. In the event of clinical failure, treatment should be guided by in vitro susceptibility data.
Enterohaemorrhagic Escherichia coli enteritis
- Most Escherichia coli infections cause self-limiting watery diarrhoea which does not require specific therapy.
- However, infection with some E. coli (eg 0157:H7 or 0111:H8 strains) may lead to the development of haemolytic uraemic syndrome or thrombotic thrombocytopenic purpura, particularly in children.
- Antibiotics should not be given, as they appear to increase toxin release and therefore the risk of developing haemolytic uraemic syndrome.