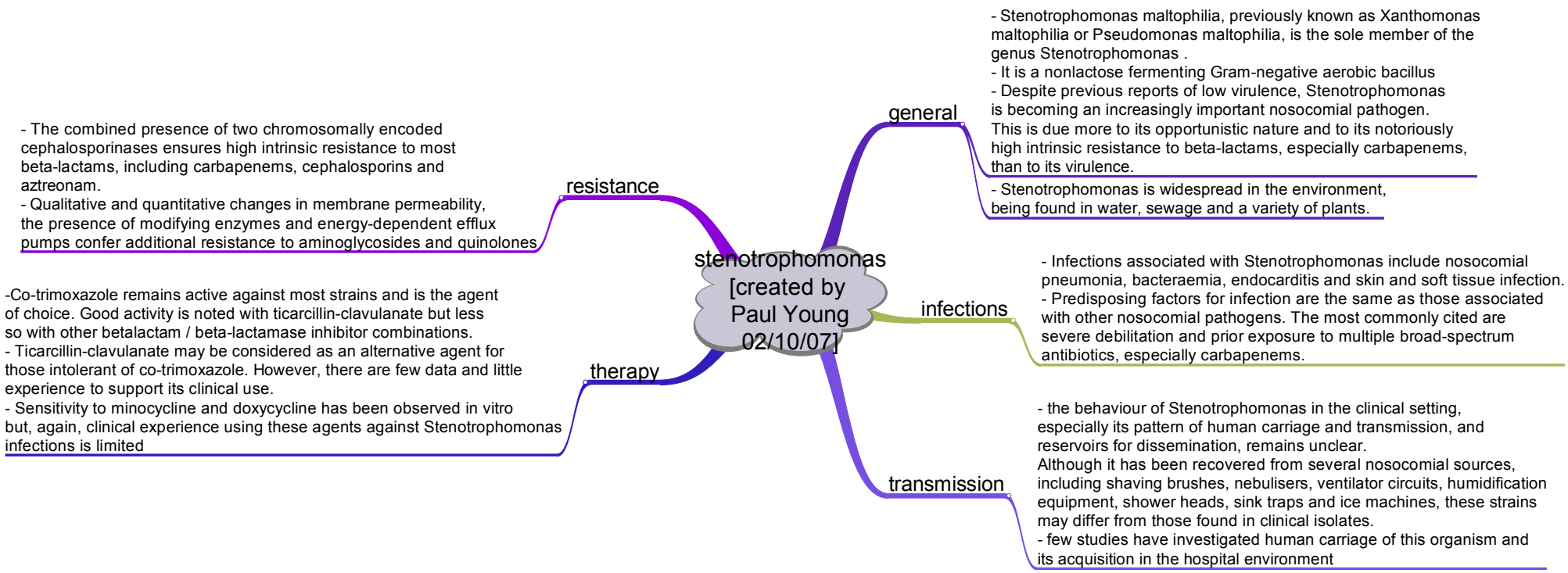
stenotrophomonas [created by Paul Young 02/10/07]
general
- Stenotrophomonas maltophilia, previously known as Xanthomonas maltophilia or Pseudomonas maltophilia, is the sole member of the genus Stenotrophomonas .
- It is a nonlactose fermenting Gram-negative aerobic bacillus
- Despite previous reports of low virulence, Stenotrophomonas is becoming an increasingly important nosocomial pathogen. This is due more to its opportunistic nature and to its notoriously high intrinsic resistance to beta-lactams, especially carbapenems, than to its virulence.
- Stenotrophomonas is widespread in the environment, being found in water, sewage and a variety of plants.
infections
- Infections associated with Stenotrophomonas include nosocomial pneumonia, bacteraemia, endocarditis and skin and soft tissue infection.
- Predisposing factors for infection are the same as those associated with other nosocomial pathogens. The most commonly cited are severe debilitation and prior exposure to multiple broad-spectrum antibiotics, especially carbapenems.
transmission
- the behaviour of Stenotrophomonas in the clinical setting, especially its pattern of human carriage and transmission, and reservoirs for dissemination, remains unclear.
Although it has been recovered from several nosocomial sources, including shaving brushes, nebulisers, ventilator circuits, humidification equipment, shower heads, sink traps and ice machines, these strains may differ from those found in clinical isolates.
- few studies have investigated human carriage of this organism and its acquisition in the hospital environment
therapy
-Co-trimoxazole remains active against most strains and is the agent of choice. Good activity is noted with ticarcillin-clavulanate but less so with other betalactam / beta-lactamase inhibitor combinations.
- Ticarcillin-clavulanate may be considered as an alternative agent for those intolerant of co-trimoxazole. However, there are few data and little experience to support its clinical use.
- Sensitivity to minocycline and doxycycline has been observed in vitro but, again, clinical experience using these agents against Stenotrophomonas infections is limited
resistance
- The combined presence of two chromosomally encoded cephalosporinases ensures high intrinsic resistance to most beta-lactams, including carbapenems, cephalosporins and aztreonam.
- Qualitative and quantitative changes in membrane permeability, the presence of modifying enzymes and energy-dependent efflux pumps confer additional resistance to aminoglycosides and quinolones