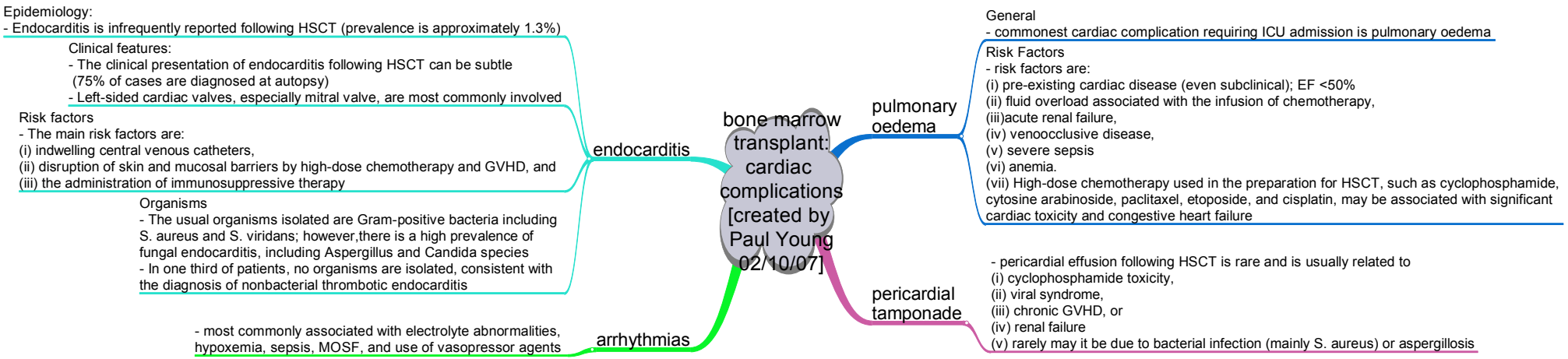
bone marrow transplant: cardiac complications [created by Paul Young 02/10/07]
endocarditis
Epidemiology:
- Endocarditis is infrequently reported following HSCT (prevalence is approximately 1.3%)
Clinical features:
- The clinical presentation of endocarditis following HSCT can be subtle (75% of cases are diagnosed at autopsy)
- Left-sided cardiac valves, especially mitral valve, are most commonly involved
Risk factors
- The main risk factors are:
(i) indwelling central venous catheters,
(ii) disruption of skin and mucosal barriers by high-dose chemotherapy and GVHD, and
(iii) the administration of immunosuppressive therapy
Organisms
- The usual organisms isolated are Gram-positive bacteria including S. aureus and S. viridans; however,there is a high prevalence of fungal endocarditis, including Aspergillus and Candida species
- In one third of patients, no organisms are isolated, consistent with the diagnosis of nonbacterial thrombotic endocarditis
arrhythmias
- most commonly associated with electrolyte abnormalities, hypoxemia, sepsis, MOSF, and use of vasopressor agents
pulmonary oedema
General
- commonest cardiac complication requiring ICU admission is pulmonary oedema
Risk Factors
- risk factors are:
(i) pre-existing cardiac disease (even subclinical); EF <50%
(ii) fluid overload associated with the infusion of chemotherapy,
(iii)acute renal failure,
(iv) venoocclusive disease,
(v) severe sepsis
(vi) anemia.
(vii) High-dose chemotherapy used in the preparation for HSCT, such as cyclophosphamide, cytosine arabinoside, paclitaxel, etoposide, and cisplatin, may be associated with significant cardiac toxicity and congestive heart failure
pericardial tamponade
- pericardial effusion following HSCT is rare and is usually related to
(i) cyclophosphamide toxicity,
(ii) viral syndrome,
(iii) chronic GVHD, or
(iv) renal failure
(v) rarely may it be due to bacterial infection (mainly S. aureus) or aspergillosis