Geriatric anesthesia >60

Problems

Physiological changes

1- Decrease compliance of major arteries by atherosclerosis so the response to stress is variable

2- Increase systolic pressure lead to left ventricular hypertrophy and decrease C.O

3- Increase parasympathetic activity

4- More prone to myocardial ischemia because of mismatch between O2 supply and demand

5- Slow circulation

6- Respiratory: chest expansion is limited because of calcified cartilages and kyphosis, increase residual volume and decrease vital capacity, retention of secretion lead to infection. Fall in lung compliance lead to patchy consolidation lead to shunt so decrease P02. Poor cough reflex

7- Danger of thrombosis and embolism due to sluggish circulation

8- Impaired renal function due to gradual loss of nephrons and reduction of renal blood flow leading to deficiency in clearing drugs. Decrease capacity to conserve water lead to dehydration

9- Nutritional defect: decrease absorption from intestine lead to anemia and hypoproteinemia

10-Neurological: autonomic nervous system defect leads to orthostatic hypotension and decrease cerebral blood flow. Decrease hearing make preoperative assessment difficult.

11-Drugs: oversensitivity to drugs, also there is decrease metabolism and excretion, IM & SC has delayed absorption so there is danger of accumulation. Decrease renal clearance so be careful with relaxants Decrease liver function lead to decrease clearance of drugs. Poor protein binding lead to decrease free drug

12-Teeth trouble

Geriatric anesthesia

1- Preoperative assessment and management:

ASA classification

Investigations: all systems

Stop smoking at least 1 week with postural drainage

If left ventricular failure....digitalis and diuretics

Correct fluid and electrolytes, correct anemia

2- Premedication:

No narcotics, low dose sedatives such as 2mg diazepam IV

Give atropine, bronchodialators, cortisone for stress, ephedrine for hypotension

3- Spinal anesthesia:

Give atropine, IV fluid. Danger of postural hypotension.

Give O2, Good monitoring

4- General anesthesia:
Good oxygenation, monitoring vital signs and ECG
-Induction: double dilution of thiopentone slowly till sleep(eyelash reflex). Liable to receive high dose because of slow circulation
No ketamine as it increase BP and PR so lead to increase O2 demand, only used in chest problems because it is bronchodilator.
Use Scoline with atropine mixture to avoid bradycardia
- Intubation: may be difficult
- Maintenance:
O2 60% in 40% N20
Pancuronium is one of the best relaxants
Low dose halothane or fentanyl
Non-rebreathing system to avoid hypercarbia
Spontaneous ventilation is preferred
Give fluid but do not overload, if so give lasix
Monitor urine output, CVP
- Antidot: Give atropine first then give prostigmine slowly
5- Postoperative care:
Risk of myocardial ischemia in the first 24-48 hours so do ECG monitoring, oxygen mask. For pain and anxiety give for example diazepam 2.5 mg IV + 5 mg pethidine