

What I learned at IVECCS

2021

A dark blue diagonal gradient bar that starts from the bottom left corner and extends towards the top right corner, covering the lower half of the slide.

Albumin

Synthesized by the liver in response to low oncotic pressure in the nearby interstitium

Affected by dietary protein intake

66 kDa

Distribution

- 30-40% intravascular
- 60-70% extravascular

Contributes 80% of oncotic pressure

Half-life is 8-9 days in dogs

2hrs after administration, 10% of albumin leaves IV space

- Faster with damaged endothelium

Albumin



Functions:

- Maintains colloid oncotic pressure
- Important transport molecule
 - Ions
 - LCFA
 - Bilirubin
 - Drugs
- Wound healing & vascular integrity
- Binds toxic substances generated as a result of inflammation
 - Scavenges free radicals and bacterial toxins
- Acid base buffering
- Normal platelet aggregation and coagulation

Albumin

Mechanisms of hypoalbuminemia:

- Consumption
- Decreased production
 - NAPP
 - Liver disease
- Loss
 - Hemorrhage
 - Third-spacing
 - Gastrointestinal tract
 - Kidneys

Intralipid Emulsion Therapy

Proposed mechanisms of action:

- Modulator of myocardial energy
 - Provides energy substrate (FFA) for myocardial cells -> augments cardiac performance
- Restores myocardial function
 - Increased FFA stimulate activation voltage-gated calcium channels in the myocardium leading to increased intracellular calcium concentrations
- Acts as a lipid sink
 - Sequesters lipophilic compounds into the newly created lipid compartment within the intravascular space

Intralipid Emulsion Therapy

Lipid sink theory:

- Relies of the drug's lipophilicity as estimated by the log P value
 - P: partition coefficient
 - Coefficients are measures of solubility of a compound amongst two solvents
 - Hydrophilic (water)
 - Lipophilic (octanol)
 - Drug distribution
 - Lipophilic if $\text{Log P} > 1$

Intralipid Emulsion Therapy

Lipid sink theory:

- Lidocaine (2.26)
- Bupivacaine (3.64)
- Calcium channel blockers (2.8 - 3.83)
- Diazepam (2.82)
- Phenobarbital (1.47)
- Levetiracetam (-0.6)
- Beta blockers (1.8 - 3)
- Macrocyclic lactones (moxidectin 4, ivermectin 3.5)
- Pyrethrins/oids (6.5)
- Muscle relaxers (baclofen, 1.3)
- Antipsychotic (chlorpromazine, 5.35)
- Antidepressant (clomipramine, 3.3)
- Ibuprofen (3.8)
- THC (> 5)
- Cholecalciferol (7)
- Naproxen (3.18)
- Carprofen (4.13)



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Pre-tensioning Suture Line





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Tension Relieving Techniques

- Pre-tensioning Suture Line
 - Mechanical creep and stress relaxation
 - Holds dressings in place
 - Prevents skin edges from separating further
 - HEALTHY SKIN EDGES



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Tension Relieving Techniques



Feline Triaditis

Vomiting

- Raises intra-abdominal pressure
- Increased reflex of duodenal contents through the major duodenal papilla into the pancreatic and common bile ducts

Significantly more bacteria in the duodenum of cats than dogs.

- 10^8 vs 10^4 bacterial/mL