

Taking a Bite out of Capno

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Learning Objectives

- Recognize the risk of sepsis in an asplenic patient
- Recognize the importance of communication with lab for consideration of fastidious organisms

History

- CC: fever and chills
- HPI
 - 74 year old male with asplenia
 - 1 day history
 - Systemic symptoms
 - Headache and neck pain
 - 3 days prior had dog exposure

Past Medical History

- CAD with CABG in 1991
- Splenectomy in 1993
 - Due to splenic rupture
- Abdominal aortic aneurysm repair in 2000
- COPD

Other Relevant History

■ Medications

- Lisinopril
- Atenolol
- Aspirin
- Niacin

■ Immunizations

- Unknown

■ Social History

- Lives in Birmingham with wife
- Retired firefighter
- Current smoker
- No alcohol

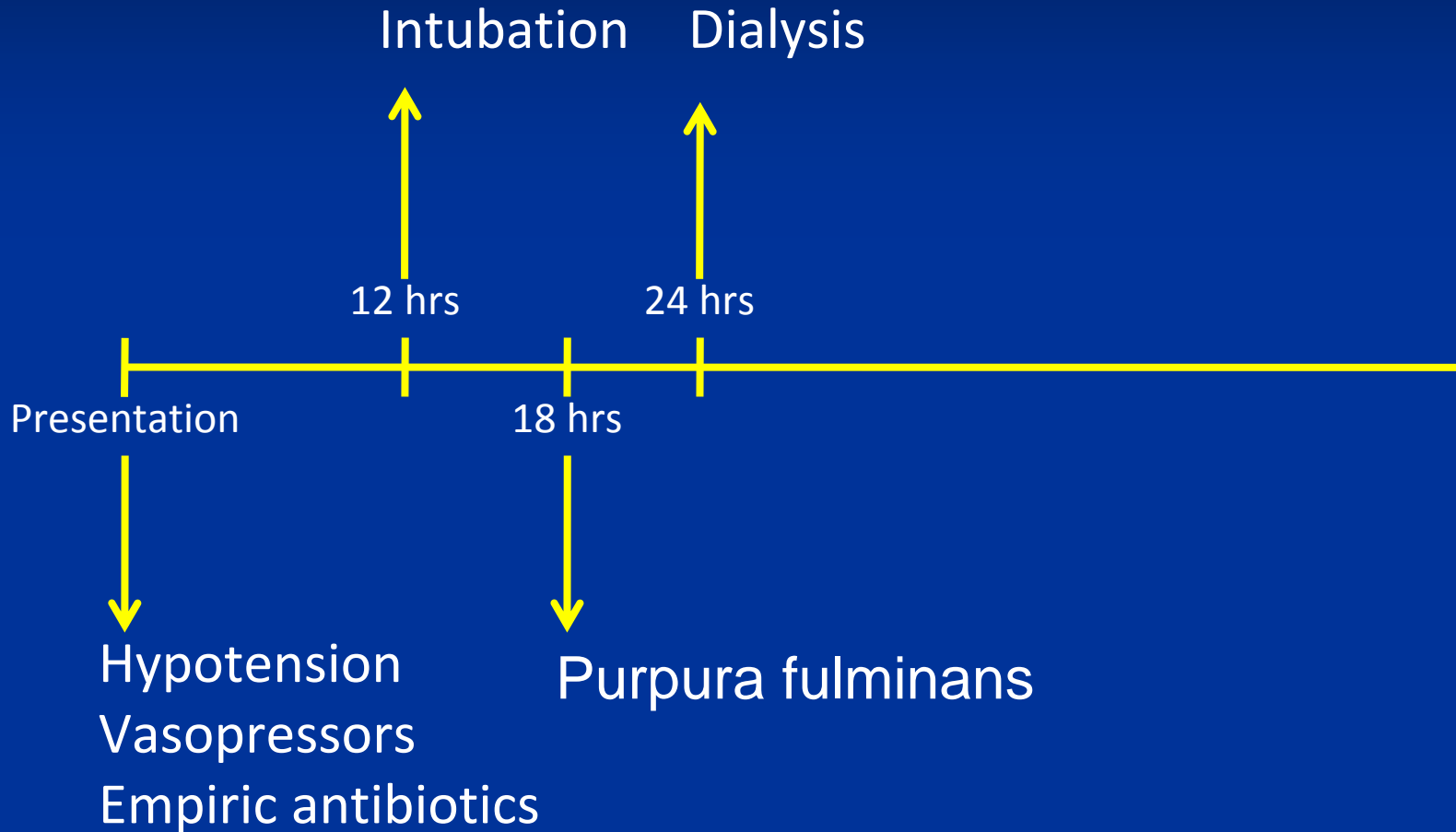
Physical Exam

- VS T 99.4 BP 88/30 HR 108 RR 24 O2 sat 99%
- Ext - bilateral arms with scratches without cellulitis
- Neuro – no photophobia, no nuchal rigidity, oriented, follows commands, no focal deficits

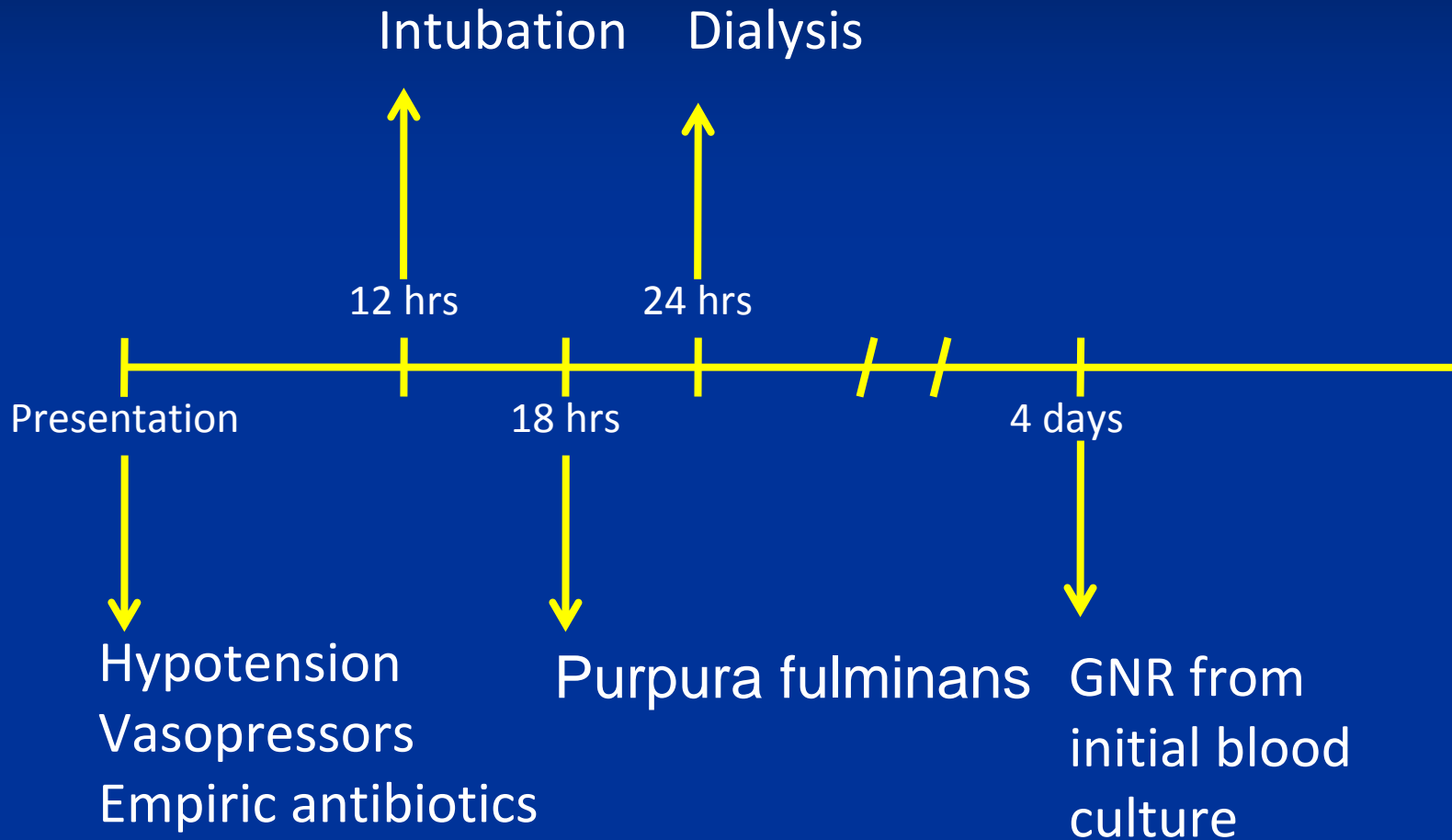
Labs

- WBC 14
 - 66% Segs
 - 33% Bands
- Platelets 184
- PT 15
- PTT 34
- Cr of 2.4
 - Baseline 1.3
- LFTs normal
- Lactic acid 5.9

Clinical Course



Clinical Course



Post Splenectomy Sepsis (PSS)

- Rapid acute decompensation
 - Hypotension
 - DIC
 - Purpura fulminans
- Due to high grade bacteremia
 - Encapsulated organisms

Microbiology of PSS

- Streptococcus pneumoniae
- Haemophilus influenza
- Neisseria meningitidis
- Capnocytophaga canimorsus
- Other bacteria
 - Escherichia coli
 - Pseudomonas aeruginosa

Capnocytophaga species

- Encapsulated gram negative rod
- Seen in asplenic patients
- Associated with animal exposure
 - Often a dog bite
- Fastidious organism

Peripheral Blood Smear



- Presence of bacteria within neutrophils
- Seen with high grade bacteremia

Capnocytophaga Infection

- Septicemia (100 reported cases)
 - 37% Purpura
 - 34% DIC
 - 29% Shock
 - 27% Acute renal failure
 - 17% Respiratory distress
 - 30% Overall mortality

Capnocytophaga Infection

- Meningitis (19 reported cases)
 - 12 blood cultures
 - 2 documented negative
 - 10 positive
 - Average of 6 days before growth revealed

Management of Asplenia

- Education
 - Counseling on risk of overwhelming infection
 - 50% are unaware of increased risk
 - Encourage patients to seek immediate care
 - With fever and systemic symptoms
 - With minor animal bite

Management of Asplenia

- Immunizations
 - Pneumococcal vaccine
 - Meningococcal vaccine
 - Haemophilus B conjugate vaccine
- Antibiotic prophylaxis
 - Standby antibiotics

Further Course

- 2 weeks of antibiotic therapy
- 1 month later
 - Identification of organism as *Capnocytophaga* species
- Long term complications
 - Distal necrosis of fingers and toes
 - Surgery follow up
 - Amputation of digits

Take Home Points

- Animal bites in asplenic patients may lead to overwhelming sepsis
- Communication with lab may lead to a quicker diagnosis of fastidious organisms

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