**diagnostic tree**

**PETECHIAE / ECCHYMOSES (P/E)**

- CBC

  - TP only (most common cause of P/E)
    - Yes
      - Serology for:
        - Ehrlichia
        - RMSF
        - Bartonella vinsonii
        - Doxycycline 10 mg/kg/day 21 days
      - Blood PCR/culture
        - Bartonella vinsonii
    - Negative
      - Coagulation screen (PT, PTT, FDP, ATIII)
        - IMT
        - DIC
        - Positive
          - Enrofloxacin 10-15 mg/kg/day
          - Doxycycline 10-20 mg/kg/day
          - Rifampin 10 mg/kg/day
        - Negative
          - Normal
          - Abnormal
            - Search for underlying dz
              - BM cytology
              - Splenic exam—u/s
              - Thoracic/abdominal radiographs
              - Estrogen levels (dog)
              - FeLV/FIV (cat)
              - Ehrlichia serology
            - Negative
            - Positive or Abnormal
              - ITP
              - TP associated with underlying dz: Treat specific dz

**Key Abbreviations**

- A: antinuclear antibody
- ATIII: antithrombin III
- BM: bone marrow
- DIC: disseminated intravascular coagulation
- Dz: disease
- ATIII: antithrombin III
- FDP: fibrin degradation product
- IMT: Immune-mediated thrombocytopenia
- ITP: idiopathic thrombocytopenia
- PCR: polymerase chain reaction
- PT: prothrombin time
- PTT: partial thromboplastin time
- RF: rheumatoid factor
- RMSF: Rocky Mountain spotted fever
- SLE: Systemic lupus erythematosus
- TP: thrombocytopenia
- u/s: ultrasound
- vWD: von Willebrand's disease
- vWF: von Willebrand's factor

Petechiae and ecchymoses on the ventral abdomen of a dog secondary to thrombocytopenia, the most common cause of this finding.
PETECHIAE / ECCHYMOSES (P/E)

**DIAGNOSIS**

- TP, Anemia, Leukopenia
- BM aspirate cytology
  - Definitive dx
    - Hypocellular BM
      - Systemic fungal dz (e.g., histoplasmosis)
      - Myeloproliferative neoplasia
      - *Ehrlichia* morulae
      - Myelophthisis
    - *Ehrlichia* serology
      - Drug history
      - Positive
        - Treat specific dz
        - BM core biopsy
          - Estrogen levels
        - Clot retraction test
          - Platelet aggregation
      - Negative
        - Immunosuppressive therapy?
        - Immuno-suppressive therapy?
        - Ehrlichia serology
          - Drug history
          - Positive
            - Treat specific dz
          - Negative
            - Search for underlying dz
            - Evan’s syndrome
              - SLE
              - Heartworm dz
              - Babesia serology
  - Definitive dx
  - Hypocellular BM
    - Problem resolved
    - Local dz
    - Insufficient assay
    - vWF assay
      - vWD
      - Low
      - Normal
    - Clot retraction test
    - Platelet aggregation
  - Normal
  - Prolonged

**RESULT**

- Normal
  - (Consider vasculitis, vasculopathy, or thrombopathies)
- Buccal mucosal bleeding time
  - Normal
  - Prolonged

**TREATMENT**

- Treat specific dz

- BM core biopsy
  - Estrogen levels
  - Blood smear for spherocytes
  - Direct Coomb’s test
  - ANA
  - Heartworm serology
  - Babesia serology

- Thrombopathies (rare)
  - Abnormal
  - Special platelet studies
  - Abnormal
  - Primary
  - Secondary

- Breed-related thrombopathies
  - American cocker spaniel
  - Great Pyrenees
  - Grey collie
  - Spitz
  - Basset hound
  - Otter hound
  - Chediak-Higashi—cat

- Polyarteritis
  - Leuko-cytotoxic vasculitis
  - Drug-induced granulomatous

- Skin biopsy
  - RMSF serology
  - *Ehrlichia* serology
  - ANA
  - RF test
  - Blood culture
  - Cold agglutinin test

- RMSF
  - Ehrlichiosis
  - SLE
  - Rheumatoid dz
  - Sepsis

- Treat specific dz