ANCA Small Vessel Vasculitis
31st Annual Meeting of the Glomerular Disease Collaborative Network

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Disclosures:
Dr. Ronald J. Falk, MD is employed by the University of North Carolina-Chapel Hill.

Dr. Falk has no relevant financial or nonfinancial relationships to disclose.
Antigen Specificity

**Cytoplasmic ANCA**
- Proteinase 3 (PR3-ANCA), BPI, others

**Perinuclear ANCA**
- Myeloperoxidase (MPO-ANCA), elastase, others

**Therapies**
- Rituximab
- Glucocorticoids
- Cyclophosphamide
- Methotrexate
- Azathioprine
- Mycophenolate
- Plasmapheresis
- Cyclosporine
Current Therapy

plasmapheresis
or
methylprednisolone
then
IV or oral cyclophosphamide
or
rituximab
then
azathioprine
and/or
Stop

- ANCA (+)
- Hematuria
- Skin biopsy: leukocytoclastic vasculitis
- Pulmonary infiltrates
- Creatinine 1.2 mg/dL

September 2012
Rituximab x 4 doses

November 2012
60 mg prednisone + IV cyclophosphamide

- Creatinine 2.5 mg/dL
- Biopsy: necrotizing vasculitis

December 2012

- Oral cyclophosphamide

January 2013

- Gram (-) sepsis
- No hematuria

60 mg prednisone + oral cyclophosphamide
Worrying about Over-Immunosuppression

Infection is a real possibility, regardless of induction protocol.
When should all anti-inflammatory and immunosuppressive therapy stop?

Biology of Relapse and Remission

Need for biomarkers of Remission and Relapse
Patient Global Assessment Scored During Times of Remission and Disease Relapse

The Vasculitis Clinical Research Consortium reports increased use of the patient global assessment tool, which captures how patients judge their own disease activity. The tool often precedes detection of disease activity by the physician by at least 3 months.


Active Urine Sediment

“...really if you think about it, the urinary sediment is much more likely to give you an inkling of the type of disease which affects the kidneys.”

Dr. Conrad Pirani
(interviewed by Dr. Vivette D’Agati)
September, 1997
A 55-year-old with positive MPO-ANCA, new onset pauci-immune glomerulonephritis with necrosis and crescents on renal biopsy, and a serum creatinine of 2.2 mg/dL:

- What would your induction therapy be?
- Do the percentage of crescents make a difference?
- Does the amount of tubulointerstitial disease make a difference?
- Would you do something different if this was a PR3-ANCA case?

Two days later the serum creatinine is 3.5 mg/dL.

- What would your induction therapy be?
- What does the rise in serum creatinine do to your therapy plans, if anything?
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- 55-year-old with positive MPO-ANCA, new onset pauci-immune glomerulonephritis with necrosis and crescents on biopsy, a serum creatinine of 2.2 mg/dL and a Hgb of 7.8. There are multiple areas of ground glass opacities on CT scan consistent with pulmonary bleeding.

- What would your induction therapy be?
- Does the amount of pulmonary bleeding make a difference?
- Would you do something different if this was a PR3-ANCA case?

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A 55-year-old with positive MPO-ANCA, new onset pauci-immune glomerulonephritis with necrosis and crescents on renal biopsy, a serum creatinine of 2.2 mg/dL and a Hgb of 7.8. There are multiple areas of ground glass opacities on CT scan consistent with pulmonary bleeding. After induction therapy, the patient is in remission. What is your maintenance plan?

- Would you do something different if this was a PR3-ANCA case?
- What difference would it make if this patient had ENT disease?
• After completing 12 months of therapy, what factors would you consider to help determine whether to stop therapy?

• What factors would you consider to help determine whether to continue therapy?

• If you are using rituximab, would you give it on a regular schedule or on an “on demand” approach?

• What if the only evidence of relapse was in the upper respiratory track?

A 59-year-old female with ANCA small vessel vasculitis was treated with IV cyclophosphamide for 3 months and then azathioprine for 1 year. She has presented with both hemoptysis and necrotizing and crescentic glomerulonephritis.

Over the 1-year course of treatment, the extrarenal manifestations of vasculitis disappeared. The patient’s eGFR was stable at 45 mL/min.

The patient returned with another episode of hemoptysis. There were 4 RBC/hpf.

Chest CT revealed nodular opacities and cavities.
What is your next step?

1. Administer plasmapheresis
2. Administer cyclophosphamide
3. Administer rituximab
4. Perform a bronchoscopy
5. Perform a kidney biopsy

An invasive bronchoscopy was performed.

On transbronchial biopsy, two things were found.

Active vasculitis and
Aspergillosis Tracheobronchitis

The patient was treated with anti-fungal medicine and was continued on azathioprine.

The patient remains in remission from her vasculitis.
In a patient with ENT disease and frequently relapsing PR3-ANCA with no systemic manifestations of disease:

- When do you use antibiotic therapy locally and orally?
- When do you use rituximab?