THICK AS THIEVES: A CURIOUS CASE OF SJOGREN'S SYNDROME

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DISCLOSURES

- No relevant disclosures

MRS H

- 34 y.o. woman, originally from Pakistan
- Diagnosed there with SLE/Sjogren's
  - Serological Dx of SLE
  - Severe Sicca flares q month with nosebleeds and difficulty eating
- Serologies: RF+ (450); ANA 1:1280 speckled; DNA + (45); SSA/SSB +; C3C4 N; APLA -tive
- Also celiac's, Hashimoto's thyroiditis, iron deficiency anemia
- G2A0P3
  - 1st pregnancy in 2014 – uneventful
  - 2nd 2017 – fraternal twins with baby girl developing complete AVB at 20 weeks gestation

INITIAL PRESENTATION

- Seen in clinic Jan 25th after a visit to ED for falls/ weakness Jan 19
- Found to have a Hb 75 with low ferritin
- Interesting note in chart: her blood samples had been too thick to analyze and returned
- She is at this point 8 weeks post-partum
- Current medication: HCQ 400 die, iron supplements

THE PLOT THICKENS

- Sent to ophthalmology Jan 27 with blurry vision
- Diagnosed with bilateral central retinal vein occlusion
- Sent to ER for further investigations
- At that point, cannot calculate Hb because of thick blood
- Note in ER chart; blood is like "molasses"

RESULTS OF INVESTIGATIONS

- Serologies #2
  - RF >650 (too elevated to calculate)
  - Viscosity 4.8 (ULN 2)
  - IgM 38 (ULN 2)
  - IgG 23 (ULN 16.2)
  - Cryoglobulins positive (type II)
  - APLA still -tive
  - C3 and C4 both decreased
- SPEP: Monoclonal peak IgM kappa with polyclonal IgG; bone marrow biopsy -tive

DIAGNOSIS?

- Hyperviscosity syndrome from hypergammaglobulinemia +/- RF
- Causing bilateral central retinal vein occlusions and retinal vasculitis

TREATMENT IN HOSPITAL

- High dose corticosteroids
  - Pulse solumedrol then
  - Prednisone 1 mg/kg
- Plasmapheresis
- Rituximab

- With plasmapheresis, the IgM, RF and viscosity decreased
  - RF 472
  - IgM 9.5 IgG 7.16
  - Viscosity 2.2
- Unfortunately, the visual deficits did not improve and will likely remain permanent

HYPERVISCOSITY SYNDROME

- Most commonly seen in polycythemia and plasma cell dyscrasia
  - MM
  - Waldenstrom's
- Has been reported in connective tissue disease (RA, SS)
  - Results from polyclonal gammopathy
  - Especially IgG and IgM RF complexes
  - Increase in fibrinogen
  - Can be used as disease activity marker (similar to ESR)
- Plasmapheresis has been demonstrated to be an efficient treatment

TYPICAL SYMPTOMS

- Cardiorespiratory symptoms
  - Dyspnea
  - Tachypnea
- Neurological symptoms
  - Lethargy
  - Dizziness
  - Unsteady gait
  - Tinnitus
- Bleeding diathesis
- Visual disturbances
  - Retinal (hemorrhage)
  - Choroidal
  - Venous stasis

ORIGINAL ARTICLE

Hyperviscosity in primary Sjögren's syndrome: clinical implications

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Table 1 Clinical and serological features of patients with HVS

Variable	Without HVS	HVS	*P*-value
Ocular symptoms, *n* (%)	61 (98.4)	4 (100)	NS
Anti-SSA antibodies, *n* (%)	55 (88.7)	3 (75)	NS
Anti-SSB antibodies, *n* (%)	33 (53.2)	2 (50)	NS
Rheumatoid factor, *n* (%)	43 (74.1)	4 (100)	NS
Rheumatoid factor titer U/mL, median (range)	159 (7–3410)	3821 (122–16000)	NS
IgG, median mg/dL (range)	1508 (639–4590)	6100 (5800–7280)	0.0001
IgA, median mg/dL (range)	310 (128–1035)	1330 (518–3400)	0.0001
IgM, median mg/dL (range)	186 (52–1549)	1715 (375–4360)	0.0001
Neutropenia, *n* (%)	4 (6.5)	3 (75)	0.0001
Lymphopenia, *n* (%)	14 (22.6)	3 (75)	0.0001
Vasculitis, *n* (%)	5 (8.1)	2 (50)	0.05
Rheumatoid factor titer U/mL, median (range)	159 (7–3410)	3821 (122–16000)	NS
IgG, median mg/dL (range)	1508 (639–4590)	6100 (5800–7280)	0.0001
IgA, median mg/dL (range)	310 (128–1035)	1330 (518–3400)	0.0001
IgM, median mg/dL (range)	186 (52–1549)	1715 (375–4360)	0.0001
C3, median mg/dL (range)	93 (53–161)	118 (46–167)	NS
C4, median mg/dL (range)	18.8 (4–54)	61.6 (13–80.7)	NS
Cryoglobulins, *n* (%)	1/36 (2)	0/2 (0%)	0.81
Serum viscosity in cP, median (range)	1.9 (1.4–3)	14 (4–29.7)	0.0001
ESSDAI score, median (range)	1 (0–4)	6 (4–9)	0.0001

HVS, hyperviscosity syndrome; ESSDAI, European League Against Rheumatism SS Disease Activity Index.

THEIR FINDINGS

- Serum viscosity positively correlated with both immunoglobulin levels AND RF levels
- Precipitation of cryoglobulins and accumulation of various proteins in microcirculation might cause blood vessel occlusion and ischemia

TAKE HOME POINTS

- Recognize hyperviscosity syndrome (HVS) as a potential devastating complication of SS, RA and other rheumatic diseases
- High RF predisposes to HVS
- Must eliminate secondary hematology process that can also be more frequent in our patient population
- Medical emergency; acute treatment is plasmapheresis

REFERENCES

- Rampling, Michael A. *Hyperviscosity as a Complication in a Varierty of Disorders*. Seminars in Thrombosis and Hemostasis, vol 29, no 5, 2003.
- Scofield, R. Hal et al. *Rheumatoid Hyperviscosity: Analysis of a Patient With Intermediate Complexes That Block Other Autoantibodies and a Review of the Literature*. Seminars in Arthritis and Rheumatism, Vol 27, No 6, 1998, p 382-391
- Hernandez-Molina, Gabriela; Bermudez-Bermejo, Paola. *Hyperviscosity in Primary Sjogren's syndrome: Clinical Implications*. International Journal of Rheumatic Diseases, vol 20, 2017, p 84-89.
- Yoshida, Atsushi et al. *Central Retinal Vein Occlusion caused by Hyperviscosity Syndrome in a Young Patient with Sjogren's Syndrome and MALT Lymmphoma.* Int Ophthalmol, vol 35, 2015, p 429-432.

THANK YOU

- Questions?